THE

MEDICAL RECORDER.

VOL. VIII. *OCTOBER*, 1825. NO. IV.

ART. I. *An Examination of the Operation for the Destruction of the Stone in the Bladder, proposed by M. Civiale, of Paris, with the Description of a new Mode of performing the lateral Operation.* By HORATIO GATES JAMESON, M. D. Surgeon to the Baltimore Hospital.

THE science of medicine, like every other, has had its revolutions, each of which has been accompanied by some peculiar, and generally prevalent bias of the mind. In the medical school of Edinburgh, when in its greatest splendour under the elder Monro and others, candidates for degrees were considered as qualified to enter on the duties of their profession, and thought likely to become great, in proportion to their acquaintance with the writings of the ancients. The imperfections in these writings, however, at length brought this course of study into disrepute, as soon as medical philosophy was directed by the rules of Bacon and other modern philosophers, the importance of which, the talents of Black and Monro contributed to extend to medicine and its collateral branches.

The human mind is ever prone to run into extremes. No sooner was the folly of the opinion of relying on the ancients discovered, and the necessity of improvement clearly known, than men began to think for themselves, and a new and ardent spirit of inquiry appeared, which has been gaining ground for more than half a century, and has become so strong and prevalent, that every tyro, in looking around for materials for a thesis, racks his invention to discover something new.

Although the adoption of a disposition to improvement is the only method, by which the science of medicine can arrive

at its greatest possible perfection, yet it is equally true, that it is necessary to subject all hazardous projects, particularly for the accomplishment of difficult ends, presented as improvements, to a rigid and severe scrutiny; for the maxim, 'vita brevis, ars longa,' is no less true in the present age than in that of Hippocrates.

The foregoing train of reflections has been suggested by the introduction of the lithontriptor of M. Civiale of Paris. Mature reflection has satisfied me that the plan proposed by that gentleman for the removal of calculi can never be brought into general use, and that it is more complex and less safe than the present method; that it is only admissible in the most simple cases, and is replete with danger in others; whereas the knife, as far as regards the operation, is alike safe in all. In support of the assertions just made, I shall now proceed to point out my objections to the method of M. Civiale, and conclude with a few suggestions respecting some alterations, which appear to me to render the operation less complex, more safe, and less painful than any heretofore proposed.

The objections which I mean to offer against the method of M. Civiale are as follow. As this essay was written amidst extensive professional pursuits, a few authorities only, for want of time, can at present be given under each separate head.

1. *Plurality of calculi.* Mr. Cheselden tells us,* that the largest number of calculi he met with in any one case, was thirty-three. His language leads us to believe that he had met with other cases in which there were many stones in the bladder: Mr. Warner found two stones;† the same author also saw ten stones, which had been taken from one bladder, and presented to the Royal Society, the largest of which weighed eight ounces and a half.‡ He also mentions a case in which he found four stones of considerable size.§ Dr. Baillie says, "There is frequently one calculus only in the bladder at a time,"—"*but there are often more.*"‖ Morgagni gives a case of two calculi; two also of three calculi, found in the same bladder. The Baltimore Lycæum quotes from Mr. Brande a case, in which three hundred and fifty calculi were found after death in the same bladder: Mr.

* Cheseld. Anatomy, Art. cutting for the Stone.
† Cases in Surgery, p. 218. ‡ Ibid. p. 219.
§ Ibid. p. 230. ‖ Morb. Anat. p. 312.
¶ Morgagni, Cooke's edit. Vol. II. 328. 330. 333.

Astley Cooper took eighty small stones from the bladder by means of forceps: indeed, cases of this kind could be increased to a considerable extent.

We see, by the report of the gentlemen of Paris, respecting the operations of M. Civiale, that a single stone requires at least two or three repetitions for its removal; let us suppose there are two, three, four, ten, thirty-three, eighty, three hundred and fifty, &c. calculi; what are we to expect? Nothing less than extreme protraction of an uncertain and painful operation, or a repetition which would greatly perplex the operator, and harass the patient, to say nothing of the risk of inflammation being excited in the bladder, or urethra, or both. It may be alleged, that Mr. A. Cooper, having extracted eighty stones by means of the forceps, through the urethra, affords a lesson calculated to show the plausibility of bringing away the fragments of a broken calculus by means of the lithontriptor. We will admit that Mr. Cooper did achieve such an operation; but does it follow that surgeons of common, and even respectable talents, can do the same? I unhesitatingly reply in the negative; and feel bound to go further, and say, that even in the hands of Mr. Cooper the practice is wrong, and possesses no advantage over the common operation. Who that has invariably seen patients shrink and cringe under the careful introduction of a catheter or sound, will believe that a forceps can be passed, and by frequent and uncertain efforts seek for the stone, till a considerable number of calculous fragments are caught, without torturing the patient. The operation of introducing an instrument into the bladder, is always excessively painful; as is evident, not only from the pain actually expressed, but also from the perspiration, flushed face, &c. which usually attend it. But if the forceps or lithontriptor is introduced, and a rough fragment of stone taken hold of; may it not present asperities to the urethra, and lacerate its lining? but more of this hereafter.

On examining the three cases reported by the National Institute of the success of Civiale's operation, some of the circumstances convince us, that the pain attendant upon it must be a serious objection to it. In the first case, the commissioners say, that the stone being felt once more, M. Civiale introduced down to it, almost at the first attempt, the large straight catheter, having in its centre the forceps and lithontriptor, and that the urethra offered no resistance to their passage; an assertion which, considering the pain produced by the ordinary introduction of the catheter, though of a

form properly adapted to the curve of the passage, rather excited astonishment: the operation lasted forty minutes, during which time it was suspended three times, and afforded only "uneasiness" to the patient, who was able to leave his bed alone, and discharge the sand, the result of boring the stone, one third of which had been removed, by this first attempt. The passage of the sand, it is rather remarkable, excited no pain, though the urethra had been irritated by the introduction of the sound: these wild statements convince us that the project of M. Civiale was received with all the indulgence and expectation which so great a benefit as the operation was expected to confer on mankind, was naturally calculated to inspire: a disposition of scrutiny, however, would have been more creditable and safe. Ten days afterward, the patient underwent a similar operation, without any remarkable occurrence; and on the ninth day after the second operation, a third was performed, when a larger quantity than before of fragments and pulverized stone passed through the irritated urethra. Excepting the danger of a return of the calculus, which, from the difficulty of passing all the fragments by the urethra, is greater than by the lateral operation, the commissioners state that it succeeded very well.

The second operation was attended with more difficulty. The introduction of a small sound, followed by others, which were gradually increased in size to enlarge the canal in this case, were necessary to render the introduction of the lithontriptor more easy: in the lateral operation, this protracted suffering would have been avoided.

The calculus was of the size of a chesnut, and removed at three operations; on the first attempt the bladder, in removing this stone, was very irritable and contractile, and it was continued but for a short time; leeches, and emollient injections (we suppose for the purpose of allaying inflammation) became necessary, and afterwards a fragment was discovered outside of the bladder, which was removed by the use of Hales', or (as they have improperly been called) by Hunter's forceps.

In the third case, sounds and bougies were again used to dilate the urethra; the stone was attached, and the boring continued for some time: at the second operation, the calculus could not be discovered; a third trial required a larger lithontriptor; to introduce which, an incision was made at the mouth of the urethra, and thus a free access was opened to the instrument: no mention, however, is made of the difficulty of admitting an instrument thus preternaturally large,

through the prostate gland: the case, after the third operation, was so far completed, that the stones were brought away by drawing them through the urethra: the operation, however, was not considered as complete, since it was stated, that in a few days the patient would be examined and sounded, and if stones were still found, they could be removed by injections, and by the forceps of Dr. Hales. From a careful perusal of these cases, we conclude, that the pain must have been greater from the introduction of the instruments, than the commissioners state; that the danger from irritation of the bladder by the use of the instruments, also, was considerable, and that it even threatened life, as is evident from the necessity of local bleeding, &c. which proved that inflammation of the bladder, and perhaps of the peritoneum, existed; that the return of the calculus from the detention of some of the particles in the bottom of the bladder, was more to be apprehended, than in the lateral operation. But let us suppose, that these were the most favourable cases to the proposal of M. Civiale: in one case out of three, life was endangered by inflammation; a greater proportion than in the lateral operation, which it is intended to supersede. We now proceed to examine the objections which peculiar states of the bladder and of the calculus indicate, and try to ascertain, on the solid basis of fact, the probability of its ultimate success, compared with the lateral operation, which is of such general application as to suit to all cases.

The commissioners appointed by the Institute confess, that the lithontriptor is not calculated for those stones, which are so large as not to be received by the forceps of that instrument: the high operation, they think, then becomes necessary: the operator should therefore be prepared to perform either the lateral or the high operation: the former, if properly done, will answer under all circumstances: the high operation is preferable to the method of Civiale, or to that unpardonable rudeness which attempts to take away a stone by main force.

2. *Of calculi of magnitude.* By Cheselden* we are told, that of those who recovered, the three largest stones were ℥xii, ℥x¼, and ℥viii: are we not led to believe from this language, that he saw cases, in which there were larger stones, but lost his patients?

Morgagni† cites two cases from the Sepulcretum, of calculi

* Anatom. Art. Cutting for the Stone.
† P. 322.

taken from the dead subject, weighing ℥xxxii and ℥xliv. From other authorities, one of ℥xxxix; one of ℥li; one of 6lb. ℥iii. John Bell* mentions a case of stone as large as his fist. The patient died after a cruel operation, and Mr. Bell takes occasion to show the importance and comparative safety of breaking such large stones. Mr. Warner (Cases in Surgery, 219,) notices a calculus, weighing eight ounces and a half.

Dr. Good cites the case, which occurred to Mr. Cline, in which an operation was attempted, the stone weighing forty-four ounces;—it could not be extracted, and a few days after the operation, the patient died. Dr. Good cites also, (Vol. IV. p. 356) from "a respectable foreign journal," a case of stone weighing seventy-two ounces. In the seventh volume of the Medical Recorder, is quoted from Anderson's Quarterly Journal, a case from professor Graffe, of which the weight was upwards of twenty-four ounces. The forceps were bent in rude attempts at extraction. Three scoops were used as forceps, with the aid of an assistant; the stone was thus violently taken away, and the patient died. With my present views on this part of my subject, supported by the good sense and sound judgment of John Bell, I have no hesitation in saying, that no man who will by violence wrench a stone away, or use such force as to bend the common forceps, is qualified to operate in such cases, and is accountable for the life of the patient. For certain I am, that if the patient is not otherwise too much broken down, so as to render recovery impossible, the magnitude of the stone will never materially increase the danger of an operation, provided it is properly conducted.

Benjamin Bell, whose authority is of great weight, treating "of the stone," has these words: "Although a few instances have occurred, of patients recovering, from whom stones have been extracted of a large size, yet, whenever the stone exceeds seven or eight ounces in weight, so far as I am able to judge, not above one in ten recovers."

I trust what I have said under the head of plurality of calculi, will show, that, even admitting that large calculi could be seized by the lithontriptor, still they could not be removed by a process so tedious in its performance, that repeated and protracted operations were found necessary for the removal of very small ones.

* Abridgment of Surgery, by Smith, p. 175.

3. *Of calculi having particular nuclei.* Morgagni, vol. I. p. 335, mentions a needle as having been the nucleus of a calculus; in page 337, a large bodkin in the centre of a calculus, which could not be moved during life, without extreme pain; in page 340, he cites a case of a bodkin which was successfully extracted, and was covered with a calculous formation, by Molinetti; in page 343, he gives a case in which another bodkin was the nucleus; in page 346, an encysted calculus, with a bodkin as a nucleus. Dr. Cooke, in the same work, mentions the case of a bodkin extracted by the high operation.

Dr. Baillie (Morbid Anatomy, p. 311) says, "The nuclei which I have seen, have been portions of lead (probably broken off bougies) small nails, and little masses of hairs." Warner, (Cases in Surgery, p. 206,) speaking of vesical stones, says, their nuclei have sometimes been "pins, needles, bodkins, bullets, bits of bone, and bougies," and gives a case in which bone was the nucleus. Mr. Samuel Cooper (Surgical Dictionary, p. 982) tells us, that the nuclei of calculi "are bullets, splinters of bone, bits of wood, pins, &c." Dr. Good (Webster's edition, vol. iv. p. 348) mentions a case of calculus, covered with downy hairs, which were discharged from time to time from the bladder.

Hairs, needles, pins, or other light bodies of similar structure might, by accident, be taken out by M. Civiale's instrument; but the presumption is, that, in most instances, they would be left. In the case related by Dr. Good, some of the hairs would almost unavoidably be left in the bladder. The lead, wood, bone, bodkins, &c. could not at all be brought away. The "commissioners" foresaw this objection, and have honourably pointed it out; but we think they modified improperly their conclusions, when they state, "that they might be reduced in volume and weight, and become less painful;" as we have the fullest evidence that all extraneous bodies left in the bladder will form nuclei, and sometimes very rapidly stones, equal in number to the fragments into which the foreign body is broken.

4. *Calculi of soft consistence.* Dr. Good (vol. 4, p. 348) speaks of "crumbling calculi." Dr. Baillie (Morbid Anatomy, p. 318) mentions two cases of calculi which resembled mortar, and which filled the bladder in large quantity. Dr. Darwin, in his Zoonomia, speaks of fragile stones, which, of course, could not be extracted in this way. B. Bell, also, somewhere speaks of stones, resembling mortar, but I have not thought it necessary to extend the list, since every practical lithotomist must have seen them. I have

seen two cases of soft calculi in patients upon whom I operated; in both these cases, the bone earth base was so blended with a quantity of stringy mucus in irregular layers, that the compound was too fragile to be extracted entire. I only found it necessary to use a scoop and syringe after taking away the larger fragments, which were formed in grasping it in the forceps with this last instrument. Dr. Darwin, in proposing to destroy calculi in the human bladder, foresaw, that stones which were fragile or of the consistence of mortar, could not be comminuted, and proposes cutting them to pieces with loops of wire, introduced through a tube.

5. *Encysted calculi.* Dr. Good (vol. 4. 351) cites from Mr. Nourse, a case, in which six sacs or bags were formed, and contained nine stones. The same author, in the same page, states, that M. Garangeot, having found an encysted stone in one of his operations, ventured to open the cyst, and thus saved his patient. The same author mentions several other cases, in which the sacs of encysted stones were supplied with vessels so large as to deter him from cutting them open, for fear of hemorrhage. It has been remarked by Marcet and many others, that encysted stones are not particularly troublesome; but surely, before they become so, they must harass the patient. They must be enclosed gradually, and met partly exposed by the lithontriptor. Mr. S. Cooper (Surgical Dictionary, p. 693) cites several cases from M. Houstet, where there was much suffering, and in some of which the stones could be touched by the sound. S. Cooper, in the same work (p. 692) reminds us of the case of Desault, who opened a cyst of the bladder, and successfully removed a calculus. Desault also tells us of his success in extracting a tumour from within the bladder: will Civiale's instrument answer in such cases? Le Dran says he removed an encysted stone by means of injections continued six weeks, and then removed it by an operation. I am inclined to believe here, that the bladder was contracted around the stone, (a case of which I shall relate presently,) and that he only dilated that viscus. Here a mistake in regard to this condition of the bladder would lead an inexperienced practitioner into a dilemma, which would not only disappoint him in the operation, but might prove fatal to the patient. Dr. Baillie (Morbid Anatomy, p. 304) says, "Cysts are sometimes found connected very minutely with the bladder, and communicate with its cavity. These, in some instances, have been observed to be of a very large size." (307) "Between the fasciculi of the muscular fibres, little pouches are formed by the inner mem-

brane." "These pouches are often large enough to admit the end of a finger, and contain occasionally small calculi." "It is much more common to find this in the male than in the female." "A calculus also is occasionally attached to an excresence of the bladder, so as to be kept in a fixed situation." What a stumbling block is this to the advocates of the lithontriptor! Who can tell whether the first case which is met with may not present one of the peculiarities pointed out by Dr. Baillie? Who can overlook the danger of groping about the bladder after a stone. Will not the mischief be irreparable, if the forceps come into contact with the inequalities of the bladder? Morgagni (vol. I. 343) gives a case, where a large calculus was "in part attached to the bladder." To tear this stone loose with the lithontriptor, would have been certain death, by taking hold of the bladder when thus attached to the stone. (346) Morgagni found a calculus surrounding a bodkin, and lodged in a small sac. The same author (354) cites from Ellerus a case of stone lodged between the coats of the bladder; in page 352, he cites from Tulpius a case of thirty-nine calculi in separate cells; from Haltz Appellius, thirty-two encysted calculi in one bladder. Petrus Francus and Littre found also sacculated calculi in the bladder. S. Cooper (Surgical Dictionary, 692) states that M. Peyronie ventured according to the plan of Littre (who proposes tearing them away) to extract them without incision of the cyst, but lost his patient, as might have been expected. This shows, in a strong light, what may be expected from the plan of Civiale. Le Dran had better success in venturing on such an operation, but it is highly probable, that the calculus in his case was only attached to the bladder, in a manner similar to the case just cited from Morgagni. These attachments are probably formed from the inequality of the surface of the stone, by which the surface of the bladder is swelled and pressed into the interstices, and become enlarged by inflammation, so as to resemble somewhat granulations springing from the skull, when a small opening exists, or is made through the outer table, as was practised in the operation by the older surgeons. Even in these cases, the lithontriptor would be much less safe than a finger or single forceps blade, introduced through the common incisions in the perineum.

Charles Bell (vol. I. 216, Operative Surgery) says, "I possess several specimens of stones engaged in sacs of the bladder." It is true Mr. B. says also, that these cases are rare, and that sacculated stones are not apt to give much

trouble: however true this may be in general, there are many exceptions, and we have just noticed some cases cited by Mr. Cooper himself. In short, it does not seem necessary to dwell longer on this part of the subject; every man of reading knows that encysted calculi do now and then present themselves, and common sense will alone point out to us the danger of passing in and groping about with the lithontriptor. The instrument I have seen, improved, as was supposed, by Mr. Lukens of Philadelphia, will be doubly dangerous in cases of adherent or sacculated stones.

5. *The bladder being contracted firmly round the stone, of long standing, and this viscus highly irritable.* Morgagni states, (vol. II. p. 310, edit. of Dr. Cooke,) that "the coats of the bladder are often found thickened, after urgent and protracted dysury, *not only when it arises from calculus*, but also when it originates from an excrescence of the prostate gland." The same author (310) quotes Riverius, who has given a case, among others, of a similar nature, in which the bladder, containing a calculus, had become fleshy externally, and unyielding. Morgagni also mentions some other cases of thickening of the bladder, exceedingly curious. He cites (p. 310) a case from Trew, in which several large and rough calculi were found in the bladder, and the coats presenting an irregular and sinewy-like surface, with much inequality of its exterior. Dr. Baillie, speaking of thickening of the coats of the bladder, observes, "The bladder in this state admits of little distention," and every practical surgeon, who has attempted to dilate an irritable bladder, with a view of overcoming that irritation, must be aware of the difficulty and the pain which the patient must necessarily undergo before he can overcome the resistance in recent cases. Dr. Baillie, in enumerating cases of contracted bladder, notices some cases (p. 306) in which its coats were thickened, and calculi at the same time were present. Morgagni (vol. II. p. 334) notices cases of thickening, which were partly scirrhous. Dr. Baillie, in the article scirrhus of the bladder, says, "we may mistake a sort of inflammation, accompanied with induration, for scirrhus." I think I have seen a case of this nature. A friend complained of irritation of the bladder of long standing, a frequent desire to micturate, irritation and itching about the penis, &c.; he was very apprehensive of stone, and requested me to ascertain the fact by the sound. I passed in the sound, and distinctly felt an indurated spot, not larger than a twenty-five cent piece. I never shall forget the shock I received; he was a man I esteemed, whose life was valua-

ble to society, and I considered his comforts as nearly at an end, but took care to conceal my feelings. Measures were employed to allay the irritation; he soon found himself better, and for at least two years has had no complaint of the bladder; I have never sounded him since. J. Bell, (Abridgment of Surgery, p. 172,) speaking of unfavourable cases, says, "In such a patient, the bladder is small, contracted, subject to inflammation from pressure of the stone, the parts are in such a state peculiarly disposed to inflammation." It would indeed be entirely useless to increase quotations, to prove the existence of the contracted irritable state of the bladder, in many cases of stone; they are familiar to every practical surgeon. I shall, therefore, content myself with the relation of a single case, which occurred in my own practice.

About to operate on a lad about fifteen years of age, I requested that he would retain his urine two or three hours before the operation,* which was complied with; I soon got hold of the calculus with the forceps, but could not succeed in bringing it down. I found, indeed, that so firmly was it encased in the bladder, that I could not cause it to move in the least. I then tried to make it rotate in the bladder, hoping, that changing the surfaces of the stone and bladder would enable me to bring it down. The forceps, though pressed on the stone with all my strength, revolved around it, rubbing off a portion of rough sand, but the stone was as immoveable as a rock. I now more carefully examined with the finger, found a large calculus, at least an inch and a half in diameter, at its largest end, at the fundus of the bladder, (or rather this was ascertained after some of the lower and smallest part of the calculus was broken off by the forceps.) The stone was of a pear-like shape, the largest end at the fundus of the bladder, and nothing short of a force which must have proved fatal to the boy, would have brought it down; and very probably, a little rudeness would have inverted the fundus of the bladder. The stone was so hard, and the contraction such as to prevent the common forceps from passing along its sides, so that I was obliged to break away the stone in small parcels, working from its smallest end upwards. My friends present, some of whom had often given proofs of their entire confidence in my judgment, became fatigued and discouraged, and I was urged repeatedly to enlarge the wound. Well aware that none present were

* The urine, which could never be long retained, lay in the lower end of the bladder.

exactly aware of the fixed situation of the stone, from which no extent of incision in the bladder would have dislodged it, I went on patiently to break it away. I spent in all about sixty-five minutes, and relieved my patient entirely by means of the scoop and syringe, of all sand, &c. My friends went away desponding, after this operation; I, however, was fully conscious that I had done no violence to the bladder, except making a moderate incision, the extent of which I shall never venture to augment. What harm could my moist finger, or smooth forceps, do the bladder, provided I did not, by awkwardness or rudeness, bruise it? Never did a patient before fare better; he had neither pain nor fever, was not bled, and only required an occasional dose of salts, to keep the bowels open.

If I ever had a right to felicitate myself for a successful issue it was here, since the escape of the patient was obviously owing to the method pursued. It required no small share of fortitude and self-possession to contend with a difficulty so peculiar and so unexpected, and that, too, under the anxious entreaties of my surrounding friends, to adopt some prompt and efficient expedient, to relieve the lad from his present sufferings. But, aware that the case was a peculiar one, and supported by principles which I had laid down for myself, upon reading John Bell, *never to extract a large stone entire*, I was the better enabled to bear the perplexing difficulty, alike novel and unexpected to me. This case was put under my care, by Dr. Jennings, of this city; he was among the number of my friends, who were present, and is acquainted with its favourable termination. I would just remark, further, that whatever difference of opinion may exist, as to the propriety of removing large stones through large wounds, or by violent pulling, in this case neither could have succeeded, as the stone was, so to speak, consolidated with the bladder. What could have been effected, in such a case, by the lithontriptor? But more of this hereafter.

6. *Elongation of the inner coat of the bladder.* Dr. Baillie, (in his Morbid Anatomy, p. 303,) says, "I have known the inner coat of the bladder elongated, in some parts, so as to form irregular processes." Many cases might be cited, of polypous formations in this viscus. A few days ago, I was requested to sound a lady from abroad, who had suffered excruciating pain of the bladder, almost continually, for upwards of two years; attended with constant desire, and frequent discharges of urine, in small quantities, with burning pains, frequent dribbling, &c. These symptoms induced her

physicians, after having tried ineffectually to allay the irritation, to believe, that there was a calculus in the bladder. I sounded, but could find no stone, except a small piece of gravel, of which she had been frequently passing by the urethra. The bladder was so exquisitely tender, that she complained much every time I touched its inner surface with the end of the catheter, used in sounding. When I withdrew the instrument, its eyes had entangled in them considerable little masses of pulpy flesh-like substance, resembling pieces of polypi or tender granulations; also a little muco-purulent matter. I could not discover, either with the sound or with my finger, introduced into the vagina, any tumour. I am clearly of the opinion, that had there been a stone in this case, or in such cases as Dr. Baillie relates, the lithontriptor would have been very dangerous, as it would be almost certain, not only to seize the tumour or swelling, but would be very likely to throw the forceps of the lithontriptor upon the coats of the bladder. Let it not be said, that diseases rendering the inner surface of the bladder irregular, are rare. No man knows how soon he may meet such a case; and if, by the common operation, he could not entirely relieve the patient, he could at least take away the calculus, and afford his patient a reasonable chance of recovery. I am reminded here of the risk of introducing the forceps into the bladder along a gorget, before carefully feeling the interior of it, and the stone, with the finger. That cases like that of Dr. Baillie do occasionally occur, there can be no doubt; and it is highly probable, that surgeons, by trusting to the forceps, have done the bladder an injury, which led to a fatal issue of the case. The very possibility of such an event, surely, justifies my holding it up to view, and should deter us from introducing a lithontriptor, or any other instrument, into the bladder, for the purpose of extracting a stone, without previously examining the interior of the bladder with the finger.

7. *Excrescences in the bladder.* Morgagni, (vol. II. p. 300,) tells us, "that tubercles and excrescences sometimes protrude from within the bladder." He elsewhere gives some cases. (Ibid. p. 375) this author says, "a portion of the prostate gland, resembling a moderate sized grape, protruded into the bladder." And (p. 193) he gives a case, in which there was a white protuberance from the prostate, projecting into the beginning of the urethra. Dr. Good (Study of Medicine, vol. IV. Webster's edition) cites a case from Dr. Percival;—the patient died from retention of urine, which was attended with symptoms of strangury, and the bladder

was enormously distended. "Two excrescences near the neck of the bladder, internally, had nearly closed the bladder." Doubtless I may venture to presume, that these diseases of the prostate or bladder, are no security against the formation of stone; on the contrary, the interruption which is given to the regular discharge of the urine, is well calculated to increase the danger of the formation of calculi. Is it not reasonable to believe, that some of the failures in the common operation, are owing to inattention to excrescences existing in the bladder, which lead the surgeon to do much mischief with the forceps, and which he would avoid by examining the viscus with his finger? Surely no one will advocate the use of the lithontriptor in such a case!

8. *Stricture of the urethra.* I deem it unnecessary to cite authorities to prove the occasional coincidence of stricture of the urethra, and calculus of the bladder. Suffice it to say, that I have seen two cases of this kind, in one of which I operated upon a very small bougie, and in the other, the patient had been long in the hands of two professional gentlemen of this city, on account of the stricture, which was removed by caustic, dilatation, &c. This patient was afterwards successfully operated on by Dr. Davidge, of Baltimore.

It might be alleged, by the advocates for M. Civiale's method, that the same difficulty presents itself here to the common operation, as that of M. Civiale, since, in both cases, we should have to dilate the urethra by means of bougies, &c. previous to either operation. I have, however, clearly shown, in my essay upon stricture of the urethra, published in the Medical Recorder, that we can easily and safely cut into the bladder, guided by the left fore finger placed upon the indurated urethra. But, in many instances, we can introduce a small sound, and after making the usual incisions in the perineum and urethra, we can slip in a straight director and pass the scalpel along its groove. A surgeon, well practised in the dissection of the parts concerned, would give himself unnecessary trouble, and his patient much unnecessary pain, by delaying an operation, for the purpose of dilating the urethra. Nothing but a want of confidence in his own knowledge and skill, should deter him from operating promptly in such a case, as soon as irritation and pain can be allayed by the usual means. Guided by a small sound, introduced into the bladder, or a common one, as far as it will pass, we should, after cutting down upon the instrument, introduce a straight director into the bladder; or, where neither can be done and the health and constitution of the patient will admit of an ope-

ration, he may safely cut into the bladder, guided by the indurated state of the urethra. I am aware, that in many instances, the induration does not extend quite so far as the prostate, but, after cutting as far in as it does extend, in a majority of cases, he can, without any dangerous force, pass his finger, or the straight director, into the bladder. I wish it to be expressly understood, that I am not theorizing, but speaking practically, that is, of a measure, which I have again and again executed with entire success, in cases of stricture. Indeed, I consider the power of executing these measures, as necessary to the most successful practice of the operation of lithotomy. Here, then, is a most marked advantage in the common operation over that of M. Civiale.

9. *Difficulty of finding calculi in the bladder.* Morgagni (vol. II. p. 328) says, "It has happened in other cases, (speaking of a case of encysted stone in the hands of an unskilful surgeon,) besides this, that at one time a calculus could be distinguished, by the introduction of a finger into the rectum, and at another season it was imperceptible; nor is even the introduction of a catheter at all periods, satisfactory. Even Cheselden himself, as well as other surgeons, have sometimes not been able to detect a calculus, though the catheter was introduced three times, and yet it was unquestionable that one existed." Mr. C. Bell tells us, that we sometimes miss the stone, in consequence of its lying at the lower part of the rectum, and that we have only to introduce a finger into the bladder, and elevate the stone against the sound. In Morgagni's cases, we have just seen, the stone could not at all times be discovered, although in the bladder, by a finger in the rectum. Dr. Good (vol. IV. 351) tells us, that "if the calculus be lodged in a peculiar sac or fasciculus of the bladder, or lurk behind some morbid enlargement of the prostate gland, the sound may not detect it." S. Cooper, (Surgical Dictionary, p. 850) "Stones have sometimes been found in the bladder after death, that could not be discovered during life, though attended with all the symptoms of stone." He cites the case of La Peyronie. A case is also cited from Frere Cosme. Benjamin Bell (article Stone) says, "I have known a stone discovered on a third or fourth sounding, which had escaped the instrument in all preceding trials," and further "the great Cheselden operated three times where there were no stones. It must be admitted, that this mistake could only be attributed to inattention, but taken in conjunction with the circumstances of the cases I have cited, and the many which might be collected, we are necessarily led

to the conclusion, that if men, accustomed to the use of the sound, and of high pretensions in their profession, encountered those difficulties, the thing must be enveloped in uncertainty; how then can any man in his sober senses believe, considering those difficulties, that practitioners in general can pass in the lithontriptor, and seize, and comminute a stone, without danger, delay, and uncertainty, in more or less cases, in any given number?

10. *Stones in or at the prostate.* Many cases might be collected, of small calculi, impacted in the prostate gland, or just before it, settled down towards the rectum. Let it suffice to mention the following. Morgagni, (vol. II. 317,) gives a case of his own of a calculus fixed in the prostate, and cites cases from Marcellus Donatus, Lossius, Blegny, Rhodius, and Douglass, and says additional instances might be adduced. He also mentions another case, (vol. II. p. 331,) in which calculous matter was found in the prostate. I have recorded the case of Mr. Armor, upon whom I operated for stricture and stone, lodged three years at the prostate. This case will be found in the Medical Recorder, in my essay upon stricture. I have introduced these cases here, to show that they cannot be relieved, except by the knife. No one will advise the lithontriptor in such cases. If that instrument will only answer in simple cases, where is the advantage of employing it? Is it not as advisable and necessary for us to lessen the number of our capital operations, as it is to simplify our instruments? Will any one say Civiale's is not a capital one, after learning that Dr. Physick and Dr. Barton of Philadelphia, totally failed in their attempts to perform it? Who will have opportunity, in this branch of his profession, to train his hands to the operation by the knife, and that by the lithontriptor? Why, then, will he not employ the knife, which answers alike in all cases, so far as the mere operation is concerned, while the lithontriptor of France will at best poorly answer our intentions in the most favourable cases?

11. *Risk of breaking the lithontriptor in the bladder.* Who that knows the hardness of some calculi, the necessarily small size, and consequent weakness of the instrument, the uncertainty in the temper and quality of steel, the carelessness of some artists, the risk of flaws in the steel, from the unfitness of the metal employed, and considers the force of a wimble whirled round rapidly by a strong arm, will venture to say, that the lithontriptor cannot be broken in the bladder? With my present views upon this subject, I should hold every man accountable for the sufferings of his patient, who would com-

mence with the lithontriptor, break it, and finish with the knife.

12. *Contraction of the bladder, from suddenly emptying it.* Cheselden's Anatomy (article Cutting for the Stone) affords us the following very important observations: speaking of the urine retained, or fluid which was injected into the bladder, escaping by the urethra, it is said, "If there is any quantity to flow out of the bladder at the time of passing in of the gorget, the bladder does not contract, but collapses into folds, which makes it difficult to lay hold of the stone without hurting the bladder."

This objection, though the least powerful which has been advanced, should have some weight. It is evident that the instrument will work best in a distended bladder; but whether it be distended by injection, or by confining the urine, there is no certainty that the operation of breaking and extracting the fragments can be effected, without suffering the fluid to escape. I have more than once been much disappointed in my efforts at retaining the urine before an operation. I have tied the penis sufficiently tight to restrain the urine, till my arrival; I have observed the precaution pointed out by J. Bell, to leave the string about the penis, while introducing the staff, and yet, as soon as the sound stimulated the bladder, already uneasy from distention, the urine has flowed along the groove of the staff, and almost entirely escaped. If we admit that the lithontriptor will more effectually restrain the urine than a grooved staff, surely it cannot be kept in, after the borer is withdrawn. This, I am aware, is one of the smallest objections to the new instrument; but it is well worth bringing into the account, since an operator, by overlooking it, might lay hold of the bladder at his second or third introduction of the instrument, and it is not expected to succeed by one operation.

This seems a suitable place for noticing some observations made by the gentlemen of the commission in M. Civiale's cases. We are told, in the report on M. Civiale's operations, that "real stones were introduced, by incisions into the bladder of many dead bodies, and made fast, *almost without difficulty*, in his pincers, were broken into pieces, and pulverized *almost instantly* by the lithontriptor." "Almost instantly," and "almost without difficulty," are somewhat indefinite, and evidently show a bias of the mind, incompatible with humane, wise, and responsible men, recommending a project, which interests the lives of their fellow men: particularly as, when they detail the operation of M. Civiale, the shortest

time stated to be necessary for extracting a stone from the living patient, was forty minutes, at each operation, which was repeated three times. "Almost instantly" is, therefore, not sufficiently precise to designate a period of a hundred and twenty minutes, and certainly does not give a favourable idea of attention to language in the reporters.

But let us examine the report a little further. "We remarked, in the course of these trials, that, during the pulverization of the stone, *the bladder is beyond the reach* of any bruise from the instrument; and that we convinced ourselves there was little foundation for the fears we had entertained, with regard to this point, in the operation on the living subject." Could the gentlemen have expected any thing else than that the relaxed, insensible, dead bladder, would lie as they might desire? but does it follow, that a bladder, endowed with life, and calculated by living laws to contract, for the purpose of expelling the urine, whenever it becomes to a certain extent, an irritant, will not, when a large straight sound is forced into the bladder, and made to grope about, and move a rough stone over its surface, contract, and powerfully too, upon whatever is in the bladder? Why, then, do these enlightened men deceive themselves, and overlook facts so obvious, in a matter by which the lives of so many individuals throughout the world are put into jeopardy?

13. *Inapplicability of the lithontriptor to young children.* Under this head, I shall cite the language of the commissioners themselves, and, with a word or two, leave the reader to draw his own conclusions. "Children, although very young, do not seem to be *absolutely* excluded from the operation of M. Civiale. The small size of the penis, will, perhaps, be offered as an objection; but, independently of the circumstance, that this supposition is gratuitous, since the handling and forced elongation, which the pain at the extremity of the urethra accustoms them to exercise on that part, increases singularly and prematurely its length and volume, is it not possible to make instruments proportioned to this very interesting class of calculous patients, as has been done in the other method, *to which we are not sure, however, that, notwithstanding this precaution, we should not be compelled to refer many cases.*" Will any man, after seeing the difficulty of getting in the common lithontriptor, by cutting the "mouth of the urethra," expect to force it into a young child, without destroying it? Will any man, after seeing three operations with a heavy drill, worked by a wimble, believe, that

it could be safely worked in the bladder of a child? and do we not sometimes see stones as large as "pigeon's eggs," or "chesnuts," in very young children? The very mention of such a thing as the use of the lithontriptor, is preposterous, and the commissioners have done themselves injustice in admitting its possibility. Farther—Will any candid person, who examines the lithontriptor, believe, that it could be reduced down to a size, sufficient to pass into the urethra of young children, and retain strength enough to break up a stone? This, the gentlemen rather admit, but here also do themselves injustice, in comparing the reduction of the lithontriptor with that of the gorget knife and forceps, which are so very dissimilar in their structure.

14. *Risk of forming many nuclei out of a single calculus.* We have already seen, that some of the greatest masters in surgery have fouud it difficult to find calculi of considerable size. (See article "Difficulty of finding calculi in the bladder.") Who then will pretend to say, that in general practice, we can expect, or, indeed, that any one man, however dexterous or skilful, can, with sufficient certainty, detach small fragments, and remove them by any instrument, introduced through the urethra? Should it be said, that small fragments will be passed through the urethra, I would ask, is there any certainty of this? Is it not now well ascertained, that a great majority of calculi are formed around a nucleus of lithic acid, which, while small, descends from the kidneys, or upon some extraneous body lodged in the bladder. If the nuclei of the first kind do not pass out of the urethra, why are we to expect that hundreds of fragments will pass? I am aware (see Dr. Good, vol. IV.) that hundreds of calculi have been passed by patients, who still escaped the formation of a large calculus. But is it not equally certain, that large calculi have been found in persons who were never conscious of having passed a grain of sand, and the calculus formed around a small lithic nucleus?

15. *Mechanism of the lithontriptor.* I am clearly of the opinion, that no man who has the mechanical knowledge necessary for examining and giving a just opinion, founded on proper principles, can admit the project of M. Civiale to be well founded. We will for the present pass over the objections growing out of the complexity and feeble structure of the instrument, compared to the powerful forces which it is expected to undergo. With regard to the passage of the straight catheter, it is said, that practice will enable a surgeon to introduce it with facility. This assertion may be admitted in the dead subject, and in some particular individuals, whose

urethræ may be wide, or peculiarly insensible. But I am certain, that in this country, at least, the generality of calculous patients will suffer much pain in its introduction, since they always do from the introduction of the common smooth sound, the curvature of which corresponds to that of the urethra. I have been informed, from an unquestionable source, that one of the patients operated upon in this country, suffered extremely, and his life was put into jeopardy. But it is unnecessary to appeal to facts; common reflection teaches the surgeon, who is familiar with the use of the sound, that the urethra in the living subject, surrounded by sphincter muscles, a crooked canal, and a surface acutely sensible, can never give passage to the lithontriptor, without considerable pain.

Besides, Civiale's instrument, granting its admissibility for practical purposes, in other respects, is materially deficient in not having a resting point. For the sake of illustration, let any one take up a stone in the pincers of the lithontriptor, and set the wimble against his breast, put it into operation with the calculus hanging as it were in air, at the point of the instrument, and he will perceive the defect alluded to. He will find he can make no progress, nor keep the machine in any sort of steadiness, without resting, and firmly too, some part of the instrument near the stone, in its forceps, against some solid body. If he rest the instrument firmly against some solid body, near the fastened calculus, he will find all the difference imaginable. We fear, therefore, that the operator, particularly if inexperienced, will be disposed to place the lithontriptor against some part of the patient, with a force sufficient to steady it, or do worse, by moving it about irregularly within the bladder. If the instrument were otherwise admissible, there should be added to it, side pieces of some extent to be fixed at the proper point of the instrument, and, when regulated to the proper distance, to rest upon the thighs or pubis of the patient.

I proceed to make a few general remarks, with an account of a plan of performing the operation of lithotomy, which renders it less painful, and more safe; and restores the patient much sooner to health than the usual method. I shall then conclude, by offering a mode of extracting large calculi, by means of an instrument which I shall hereafter describe.

General Observations.—Having arrived at these conclusions from an attentive examination of the subject, I am constrained to say, nothing connected with it has fallen in my way which has produced more surprise than the following

editorial remarks in the Philadelphia Journal of the Medical and Physical Sciences for the month of May of the present year. We are there informed, speaking of the lithontriptor, that not only have they been extensively experimented with in this city, but the instrument has been several times improved by different instrument makers. Experiments were first made by several of our professors, at the University of Pennsylvania on the dead subject; and, subsequently, two respectable surgeons have operated on the living patient. The last most perfect lithontriptor has been produced in this city by that ingenious and scientific artist, Mr. Isaiah Lukens.

Is it proper, is it safe, to tell the public that two operations have been performed on the "living patient," without giving, at the same time, the consequences which resulted from those operations? when it was well known that both cases have been unsuccessful.

In one case, Civiale's instrument was first tried, then the *improved one of Mr. Lukens;* in both the patient suffered much. After this suffering, the common operation was at last performed, and I have been informed, from a respectable source, that after recovery from the last operation, the patient stated that he would rather undergo the common operation a dozen times than that of Civiale once. These operations have been performed several months ago; why then, at this distant period, have the editors of the Philadelphia Journal, with their eyes open, disseminated information which is so well calculated to deceive the unwary.*

I now proceed with a brief examination of the different instruments, and conclude with a description of a new forceps for breaking large calculi, to render which more satisfactory, I have added a drawing to the explanation.

The first instrument which the lithotomist takes up in operating, is the staff; of which the best, according to my judgment, is to be found in the first volume of C. Bell's Operative Surgery; its curvature is but moderate, and its groove is on its right side, which should not only be lateral, but deep. I notice the staff, however, merely to disapprove of trusting this instrument to an assistant, while the surgeon is passing in the knife, and to say that, as represented by Mr. Bell's plates, the angle which the knife makes with the sound is quite too great—the knife should be sent in making quite an acute angle with that instrument, because the angle of the

* We have been informed that in two other cases the instrument has been tried: in the one, death was the consequence—in the other, failure, with great irritation and pain.

edge of the knife, measured upon the parts to be cut as its base, will be too great to give the knife its best cutting direction. The more acute the angle, the more easily will the knife enter into the neck of the bladder. In boys, the knife, as directed by Mr. Bell, will make too large a wound, and probably sometimes too large in the adult, where the stone is small. If our first cut is too small, it is better to enlarge it afterwards, but I have always found my incisions sufficiently large to enable me to extract the calculus, although I keep the knife at a very acute angle with the staff. Mr. Bell is the only one, as far as my recollection serves me, who enters the knife into the staff in the most simple manner, that is, by just pushing it through the urethra in the direction in which it is to be sent forward. It has been proposed by other operators to use a straight director after laying open the urethra; this method possesses no advantage whatever over the deep lateral groove, excepting in cases where no sound can be introduced, a circumstance we now and then meet with. Sometimes we can pass in a small sound or flexible tube; in others, we must be guided by the induration of the urethra, of which I have already spoken.

The second instrument is the scalpel. Mr. Astley Cooper advises a double-edged scalpel for making the first incision. This, I have no doubt, is the best instrument for dividing the integuments and perineal muscles, but it would not answer to continue the incision into the bladder, and it is best not to multiply our instruments beyond what are absolutely necessary. I therefore prefer a common scalpel, and rather small. In boys, I use them of the shape and size exhibited in the drawing; in men, very little larger, and of the same shape. Mr. Blizard proposes a knife with a beak. C. Bell, a straight back. Mr. Sleight, a scalpel an inch and a quarter wide in the blade. Various other peculiarities have been proposed. To me nothing could appear more strange than that so many men of talents should have contrived to render complex a thing so perfectly simple. Certain it is, that every alteration proposed on a common scalpel in the form of beak, must render it more unfit for our use, while the common scalpel is wholly free from one of the greatest objections of the gorget, to wit, the risk of the beak slipping, on account of the difficulty of having an edge carried sufficiently close to the end of the knife. This objection was in some measure overcome by Dr. Physick's gorget, with the moveable blade, but there is another which cannot be obviated; it is this: the length of the beak, in respect to the depth of the groove in the staff, will depend upon the angle which the gorget makes with the staff. To

pass in the gorget on a curved staff, and keep the same relative angle between the instruments, is almost impossible. If the angle be made too acute, the beak will run out; if the angle be increased in the slightest degree too much, the upper part of the beak is raised above the edges of the staff, and presents the blunt beak* to the parts to be divided. If this occur in ever so slight a degree, great force will be necessary, and the parts may be torn, the instrument be thrown out of its proper course, or thrust too far, all of which have occurred to lithotomists of the first character.

Some distinguished men, as Cheselden, John Bell, and others, who were willing to trust themselves with a common knife, did nevertheless adopt a practice calculated alike to render a simple operation complex, and to deter men of more moderate pretensions from using it. In all my reading, I have not met (taking into view the abilities of the parties) with a thing so preposterous as that of advising us to grope about for the prostate gland by a deliberate dissection, and having found the gland, to plunge the knife in at its base, and by setting the knife in the groove of the staff previously in the bladder, to draw the knife towards you, and cut the neck of the bladder and membranous part of the urethra; and yet such is the advice of many eminent surgeons. What occasion is there for the staff after the most difficult part of the operation has been effected; and how many surgeons will venture thus to dissect, trusting, in the excitement of the moment, and a patient perhaps restless, and writhing under the knife, to their distinctly finding the gland. Is it not a thousand times more simple to adopt the plan of Mr. Charles Bell, *i. e.* to divide the muscles till you feel, by a finger applied in the great hollow, which presents itself, whether you have overcome all resistance in the levator ani and other muscles; then set your knife in the groove, and carrying it steadily and slowly forward, you cannot miss the prostate and neck of the bladder if the knife have the proper lateral direction, so as to cut to the base of the prostate without going beyond it. From repeated trials on the living patient, and upon the subject, I state with confidence, that nothing in surgery is more simple, or more certainly executed with a steady hand and due care, than that of setting the point of a scalpel into a grooved staff, and passing it into the bladder, and at once making a sufficient opening in the bladder, without al-

* Of so much importance do I consider this subject, that I beg leave to advise gentlemen who will use the gorget, to take off the beak, and grind a little off that corner of it which is to run in the staff.

most the slightest risk of cutting the rectum or pudic artery, neither of which have ever occurred in my practice, although I always take the staff in my own hand when I am about to pass in the scalpel, and leave the rectum, if I may use the expression, to take care of itself.

This singular error on the part of Cheselden, has been, in my opinion, the principal cause of keeping the gorget in use, an instrument as improper in its principles as it is unsafe in practice; improper, because no degree of experience or practice will enable an operator to keep through the curve of the staff, the same obliquity of the edge of the gorget to the parts to be cut, and hence the risk of the rising of the beak in the groove, whereas the round edge of the scalpel will vary with the change of place, and always present a slanting edge to the parts to be divided; unsafe, because it has been driven through the fundus, through the sides of the bladder—it has forcibly torn off the urethra from the bladder, and it has been passed between the bladder and rectum. It may be said that these are the faults of the operator; this may sometimes be true, but it is a fact, that some of the best operators have made these mistakes; and it is a fact equally certain, that if we abandon the absurd advice given by Cheselden, &c. of cutting first into the bladder, and then finding the staff, and draw the knife towards us, and adopt the simple method of Mr. Charles Bell, it is impossible to do any serious injury, provided a surgeon is at all competent to the operation.

This seems a proper place to say something respecting the extent of the incisions; but I shall leave this part of my subject till I come to speak of my own method of operation, merely premising here, that as I attempt to heal the wound by the first intention, I consider the extent of the external incision, as usually practised, too great. One of the reasons alleged by John Bell and others for its being extended down past the tuber ischii is, that of making a free outlet for the urine—a thing wholly unnecessary—so that we have only to make the incision large enough to afford a ready passage for the stone.

The third instrument in this operation is the forceps. In examining the various forms of forceps contrived for the extraction, it is most manifest that they are all exceedingly defective in regard to the removal of calculi from the bladder. Opening, from necessity, with short beaks in the bladder, that part which is to secure the stone slants considerably from the centre of union of the beaks to the highest part of the stone; in consequence of which, standing as two oblique planes

against the stone, they are made to force the stone from the centre of union; and hence it is, that so many stones slip out of the forceps. I am aware that an attempt has been made to guard against such an effect by bending the ends slightly, putting teeth upon the beaks, and by hollowing out the middle of the beaks; but it is clear that where the stone is large the too rapid obliquity of the beaks will force the stone forward and facilitate its escape.

An instrument wholly free from the above objections is the forceps, of which a drawing is given in the Philadelphia Medical and Physical Journal, contrived by Dr. Barton of Philadelphia.

I have lately had an opportunity of testing this instrument, of which I at once formed the most favourable opinion. After passing in a scalpel of the size and form laid down, I easily succeeded in extracting a calculus entire from a boy seven years of age, but less than most boys at five, which weighed six drachms and a half, and that too by a gentle motion of the instrument from side to side, without any direct pulling forwards. All the common forceps occupy too much space, whereas Dr. Barton's, by their openings which let in the stone, do not increase its bulk—and while they hold it faster or more safe than any other forceps, they serve to open the parts before the stone, and thus materially facilitate its extraction, while the common forceps, if they happen to be introduced a little too far, must present the ends of the beaks at a distance from each other, which will require a larger space than the calculus itself.

In Mr. B. Bell's Surgery, art. Stone, we have a drawing of forceps intended for breaking down large calculi, contrived, it is said, by "Andreas a Cruce, and since improved by Le Cat and others." Although this instrument is badly suited for the purpose intended, nothing better has been afforded. And down to the present day, many surgeons propose and practise the high operation in such cases, for want of a better method. We have also instances of the recto-vesical method having been adopted. I feel confident that I have now to offer an instrument which will, other circumstances being equal, render the operation as safe where there is a very large calculus as in cases of common size. Persons who have suffered from stone, will generally have declined so much in health, and the parts are so much disturbed in their organization, as to render them less fit subjects for an operation by the time a stone has attained a very large size; but except so far as this may increase the risk of an operation, I do not hesitate to say, that we can operate in these cases with all reason-

able safety with the instrument which I have caused to be made and sketched, as appears in the plate accompanying this paper.

It is somewhat strange that no one has thought of applying the same principles, in the construction of lithotomic forceps, that have been so long and successfully applied in obstetrics; the more so, as the principles there employed have answered so admirably well, and since it is so obvious that no other principle has yet presented itself, which would so well answer our purpose. I allude more particularly to the plan of introducing the blades separately, and then locking them so as thereby to constitute a whole. To be brief, then, availing myself of the improvement of Dr. Barton, and of the principles employed in the obstetric forceps, it was only necessary to make a certain combination, and thereto add a little alteration and improvement, to have a suitable instrument. The plate will readily explain itself, but it may be proper to give some explanation of my views and the mode of its application.

If a stone, before or after an opening into the bladder, is found to be very large, it is well understood that, under the common mode of procedure, the case will be attended with much hazard; to obviate this, I would introduce the short blade of my forceps, lay it along the right side of the stone, then the long blade is to be passed in on the left side of the stone, the short blade will of course meet the socket in the long one as it passes in; both having been introduced, and the stone taken hold of, the ring or slide is to be pressed forwards till the calculus is well secured, then the drill is passed in and the calculus cut to pieces, and so long as any fragments are left too large to be extracted, we apply the forceps and break them down before we withdraw the instrument. This being accomplished, we want a scoop something like a tea-spoon, being a little deeper than the common scoops, put up in cases of instruments. The sand reasonably removed in that way, we apply the syringe and warm water, till by introducing the finger into the bladder we no longer find any, and this I have always found easily accomplished. Here it is obvious the common operation ends; in my two last operations I have made considerable changes.

I had intended to say something of the different operations as they have been practised in regard to instruments, the making of large or reasonable incisions in the neck of the bladder, and other matters connected with lithotomy, but as by giving my own method, I shall show whose views I adopt, and as I presume persons who would think of deciding on what I have to say, will be acquainted with the different au-

thorities, it may suffice to say, that, supported by Callisen, Scarpa, and others, besides John Bell's advice about breaking down large calculi, I have adopted and practised a new method with the greatest success and satisfaction.

In performing this operation, I, if practicable, first introduce a grooved staff reasonably curved, and cut deep; giving this to an assistant, I commence an incision about an inch in an adult behind the scrotum, and carry it down on the left of the rapha, and terminate it at the lower side of the anus, avoiding, of choice, the bulb of the corpus spongiosum urethræ. The operations of professor Vacca, and my own, have satisfied me that we have only to cut through the sphincter ani downwards, and we have done all that is necessary in that direction. Cutting the transversalis perinæi and the levator ani, we have a free outlet for any calculus which it would be proper to bring through a wound in the bladder.

An assistant makes the staff protrude somewhat in the perinæum, and holds it firmly; then feeling the edges of the staff on each side of the groove, and pressing the point of the finger a little firmly, the walls of the urethra can be felt to sink slightly into the groove; this renders it very easy to push the point of the knife through the urethra, holding it in the direction in which it is to enter the bladder. I now take the staff in my own hand, and being satisfied that the sound is sufficiently far in the bladder, pass the knife along the groove slowly and steadily till all resistance is overcome, or till the urine flows; I then run my left fore finger into the bladder and search for the stone, state of the bladder, &c.

This done, the fore finger of the left hand placed in the wound at the neck of the bladder, is my guide in passing in the forceps; having discovered the stone, I open the forceps, seize it, and then proceed according to circumstances. I now feel carefully for fragments, and wash them out if any remain. Having so far followed the common operation, with the exception of making the external wound smaller than others recommend, I introduce a common flexible gum elastic catheter of large size, and with good large eyes. This is done with a view of healing by the first intention, against which there assuredly is no valid objection, nor has any one ventured to practise it, all having preferred following on in the old way, and presuming, without trial, that it would not answer. Notwithstanding the long period of time we have practised healing by the first intention, objections are in like manner made against healing other surgical wounds by that method.

Lithotomists have in an astonishing manner gone round and round this part of our subject, and still have avoided

putting into practice a method which appears as reasonable as it has proved successful. I will briefly notice a few observations of writers to show my meaning. Sharp's Surgery, 107, " The first good symptom after the operation is the urine coming freely away, as we then know the lips of the bladder and prostate gland are not much inflamed, for they often grow turgid, and shut up the orifice in such a manner as not only to prevent the issue of the water, *but even the introduction of a finger or female catheter*, so that sometimes we are forced to pass a catheter by the penis." I have ascertained, that what Sharp considers a closure by turgescence and swellings, is, in fact, an agglutination of the incision through the prostate, a part which, from its firm structure, is readily united by the first intention. Have we not, however, an instructive lesson from Sharp when he says " we are sometimes forced to pass a catheter by the penis." Here, in spite of the obstacles opposed by our art, nature healed the divided parts, and Sharp, no longer able to thwart her operations, did for his patient what he should have done at first, or, in other words, did from necessity what he should have done from choice.

We have some remarks to notice still more extraordinary, because coming from a man who has had all the immense advantages over Mr. Sharp which more modern surgery affords, a gentleman indeed peculiarly distinguished in his profession—I allude to Mr. Liston of Edinburgh. In the Medical and Physical Journal, Edinburgh, for 1825, speaking of the lithotomic patient he says, " We know that so complete is the closure of the wound, in some cases, from one or more of the causes first enumerated, that not a drop of urine flows by the wound. It occasionally finds, very soon after the operation, an exit by the urethra. *This unexpected* occurrence may please the patient, but it should be any thing but satisfactory to the surgeon." He goes on to say, that by the retention of the urine the parts surrounding the bladder will be injected with the urine, and proposes, as has long since been practised by Dr. Physick, to keep a tube in the wound. Unaccountable oversight! But things still more remarkable have been recorded. In the Medical Recorder, vol. iii. p. 636, is noticed a paper from Mr. Home, in which it is said that Dr. Souberbielle and Mr. Carpeu advise an opening to be made in the perinæum, for taking off the urine after the high operation. Here Mr. Home proposes very properly the introduction of a flexible tube through the urethra. We have already seen what Mr. Sharp and Mr. Liston did, and might cite many others who have been intent on preventing nature from healing a wound of the bladder, which would have closed in

twenty-four hours, and thereby remove all danger of infiltration. But surely Dr. Souberbielle and Mr. Carpeu, in managing the *high operation*, oppose nature with a *high hand.*

Can any thing be more obvious than this—if the wound of the prostate and neck of the bladder heal by the first intention, the entrance into the bladder will, of course, embrace a tube of proper size introduced into the bladder. Then the bottom* of the bladder being lower than the urethra, where it emerges from the bladder, will afford a safe lodgment for the urine, until it reaches the end of the tube in the bladder. What risk can there be of the urine's escaping, in comparison with keeping this incision open down to the base of the prostate, and suffering the acrid urine to run over the cellular and muscular structure, forming the lower side of the wound. In the one case, you leave the water to collect till the bladder is brought to contract, and, being inflamed, will give the patient pain and press the urine with a force, which will not only pass it out of the wound rapidly, but such is the tendency to healing till the parts are rendered fistulous in a good degree, that the parts which have just healed are, at each repetition, torn open. By inserting the tube from the beginning, the urine never collects, the sphincters and detrusor muscles lie quiet, no urine touches the cut surfaces, and all is safe.

These assertions are not speculative. I have practised it twice in calculous patients with the fullest success, and many times in operations upon the urethra. My calculous patients were both wholly exempt from pain or fever after the operation, were not bled or otherwise prescribed for, except a reduced diet and a little salts, with a view of keeping the bowels open. No urine in either case passed through the wound; one lad rode a mile in a carriage on the tenth day, and remained out of bed. The other boy did not fare quite so well as regards the external wound; it healed internally by the first intention, but the integuments remained open in consequence, I believe, of their not lying exactly in contact, and remained open about three weeks. I have resolved in the next case to apply two sutures, and secure the union of the whole wound by the first intention.

The only valid objection which presents itself to this plan is hemorrhage: to obviate this, I would advise leaving the patient a few minutes on the table, first untying him, and, if no hemorrhage comes on, it is not probable that any will supervene, which the closure of the wound will not arrest of

* The bas bond of the French, or shoulder of the bladder according to B. Bell.

itself. Apprehensions have existed, that the blood may flow into the bladder. If the vessel affording the blood is large, it will show itself before we dress the patient; if it does not, there is little to apprehend, as the urine, aided by injections of warm water, will readily bring away the blood in a dissolved state; this I have several times effected by means of a syringe, well fitted to the tube left in the urethra; with this, I injected warm water, and drew it back again by the suction of the syringe, and with it the coagula. In this way, any reasonable quantity of blood can be brought away. Should an extraordinary case occur, where there is profuse hemorrhage, we must open the wound, and, if possible, find the vessel and tie it. If this, in some rare cases, cannot be done, we can introduce a piece of sponge into the wound, and leave the catheter in the urethra, and heal the wound in the usual time. Where hemorrhage does not occur, to require some pressure on the wound, I never apply any bandage or dressing whatever; the part should be kept clean by the application of whiskey.

In short, then, I have put to the test of experiment the method of healing by the first intention, and find it answers my fullest expectations. Let us now examine a little further into cases of very large stones: notwithstanding the many respectable names advocating free incisions in such cases, and among them, Mr. S. Cooper, I am persuaded that the small incision, that is, an incision never passing beyond the base of the prostate, is the best practice. By making the incision too extensive you do away the advantage of the sacculus, formed by the bottom of the bladder, and increase the risk of infiltration. By extending your incisions, you increase the risk of cutting blood-vessels. By cutting very extensive external incisions, you prevent the healing by the first intention, in considerable degree.

Having made an incision of the proper size, we pass in the short blade of my forceps, then the other, and bringing them together, so as to grasp the stone, we tighten the beaks firmly, by pushing up the slide and fastening the stone. Then the drill is to be passed in, and having sent it as far as it will go, by means of turning the forceps a little, by introducing a finger into the rectum, or into the bladder, we change the axis of the stone, and bore again, and thus go on to drill the large fragments, till we know them to be small enough to pass easily through the wound. The scoop and syringe completes the removal of the fragments.

It remains to say, that I believe that my forceps will afford, if extended to the proper size, a much better obstetric forceps

than any in use. My friend Dr. Samuel B. Martin, of this city, suggested to me that it would form a complete obstetric apparatus in itself; we have the forceps simply by leaving out the drill. When under the necessity of performing embryotomy, we can perforate the skull in the usual way; the forceps may, in some cases, be made to press out the contents of the encephalon. When that will not succeed, a small scoop can be introduced, without withdrawing the forceps. My friend lately met with a case, in which he found a patient in the hands of a midwife, who had miscarried or aborted in the early months; the body of the fœtus had been severed from the head, and the latter left in the uterus; flooding to a considerable extent existed; and, although the os uteri was sufficiently dilated, owing to the absence of pains, the head could not be expelled, nor could it be reached with the finger. Small doses of ipecacuanha produced slight vomiting, and arrested the hemorrhage, and brought on the pains. He states that he is confident, that with the above described forceps of reduced size, he could have laid hold of it instantly. I shall make this a subject of a future communication.

In conclusion, I have one word more to say of the mechanism of Civiale's instrument. I have objected to the wimble under the head of mechanism of the lithontriptor. The same objection does not apply to the drill. In one word, it is impossible, with steadiness, to apply a wimble to the breast, and drill into a small body, without resting some part of the machine. But with the drill worked in the hand like a gimlet or trephine, it can be moved perfectly steady. Mr. Lukens's watch springs will cut the bladder, and his square end to the drill, on the principle of a sprigging awl, will not break the calculus so well as a slanting drill; and the same objection applies to Civiale's strawberry-shaped borer.

N. B. Owing to the universal opinion among writers, that we must keep the wound freely open, and cause the urine to flow through the wound, I of course was intent here, as in other cases, upon securing effectually the intention in view. In two cases, finding some difficulty to the flow of urine, I passed in my finger the day after the operation, and felt a complete union of the wound in the bladder; and, according to the usual instructions, opened it. In one of these cases, I repeated this three successive mornings, and always found the parts united. That this was not from swelling, I am satisfied, blood flowing every time I opened the wound, and the cases were doing well all the time.

It has been said that Civiale's instrument will answer a good purpose in the female. I have no hesitation in saying

my instrument will answer infinitely better. We have only to dilate the urethra by means of a sponge, very moderately introduce the forceps, and bore the calculus to pieces with a readiness which cannot be effected by the lithontriptor.

Explanation of the Forceps for breaking Calculi too large to be extracted through an incision of the common extent, and for other purposes.

The entire instrument represented in perspective, was made as a model by Mr. Cassell, surgeon's instrument maker of this city, and intended merely to show the principle of the instrument. In regard to its size, it will be necessary, in their construction, to proportion them to that of the common lithotomy and obstetric forceps respectively. In all instances, however, we must have the short blade long enough to have the joint outside the os externum in the obstetric, and outside the wound in cases of lithotomy, after the instrument is applied to the head of the fœtus or calculus. The spring end of the instrument, which opens like a pair of sheep-shears, is represented rather too small. By means of this spring, we open the blades, and the slide closes them. We can open and shut the forceps with the utmost facility, and can turn them round in the bladder, as we may desire; but before withdrawing them, we must separate the blades, by pressing down the spring, by which the short blade is held in its socket. The drill must have a shoulder, which will not pass through the opening in the spring end of the forceps, and consequently its point cannot pass beyond the end of the blades of the forceps; and the drill is to be directed in a proper and straight course by a groove, formed in each branch of the forceps. The forceps having a lateral curve, the grooves must be made to slant slightly from the centre of the spring end towards the point of the beaks, otherwise the drill would pass beyond the forceps, by running over the convex edge of the lateral curve.

The instrument is also shown in its separate parts, in the outline drawing, and will easily be understood. In using this instrument as obstetric forceps, by inserting a finger between the branches, just without the vulva, we can regulate the pressure made upon the head with more certainty, than by any other instrument; and when we cease to pull, we slip back the slide, and the spring will completely take off pressure from the head of the fœtus.

For the extraction of the fragments of a calculus in the female, after the stone has been comminuted, we shall want a delicate scoop and forceps, for taking away the larger fragments.

The following Prize Essay, to which the late premium was adjudged by the New York State Medical Society, will be read with interest by the subscribers to this Journal, more particularly as it affords another instance of the unceasing industry and energy of its Proprietor in collecting from all quarters valuable information. The Essay itself, whilst it reflects great credit on the author and the state of New York, so conspicuous in the great career of improvement, will, it is hoped, by its publication, do honour to our city, so long the metropolis of medicine in this great and rising country.

Art. II. *Essay on the remote and exciting causes of Phthisis Pulmonalis.* By Andrew Hamersley, M. D. of the city of New York.

The investigation of disease, although a subject eminently calculated to excite the feelings of the philanthropist, and give impulse to the best efforts of the votaries of science, has not, until comparatively a late period, been conducted by those strict rules of philosophic induction, which are deemed so generally necessary to the proper developement of truth. In the more early ages of the science, as remedies were few, and not combined according to the several chemical or botanical properties they possessed, so their application to the several diseases was marked by a want of that knowledge of the human structure, and attention to physiological principles, which more extensive opportunities of post mortem examination on the one hand, and more enlightened attainments on the other, have since so materially corrected. 'Tis interesting to observe how our conceptions of physical phenomena have kept pace with the gradual comprehension and demonstration of those methods of argumentative reasoning, by which our intellects are brought under the sway of those abstract conclusions, at which we arrive only after long and assiduous cultivation of our mental faculties. The symptoms of disease, which, when regarded in relation to their connexion with, and dependence upon, the morbid states, existing within, form a basis on which to erect a system of correct medical practice, when viewed only as *irregular appearances* or *external signs*, betray the observer into erroneous deductions, and constitute false beacons of medical science. To judge rightly, has ever been deemed the most important step to be

attained in the gradation of intellectual exercises. The cloud of false reasoning and uncertain analogies which for a long while hung over the decisions of medical empirics, is esteemed, at this day, as one of the strongest evidences of that chaos which results from insecure reasoning and precarious investigations. But in the wide inquiries into the constitution of man, especially when overawed by a gross superstition, such as marked the researches of ancient times, no little pains were necessarily expended in clearing away the rubbish, which was afterwards found to beset the subject; ere the human frame, with its various morbid conditions, could be brought to bear even the faint beam of such philosophy as began to be shed over the remaining darkness. It was long, very long, after the occupations of the physician were severed from those of the priesthood, to which a blind veneration had attached them, that men could endure to seek for, or hope to obtain the requisite permission to examine the bodies of dead subjects, in order to acquaint themselves with the most simple arrangements of organic life. Whatever before this period was known of the internal structure of our bodies, was probably gathered from casual observation made by the priest on the altar where his victim was sacrificed to appease an offended deity, or from such slight information as could be obtained by disclosures made in consequence of wounds inflicted on the field of carnage. The former was, perhaps, one of the circumstances which created the alliance between the functions of the priest and physician.

The dissection of the first human body constituted an era in the progress of medical science, and irregular and ill-conducted as we may suppose it to have been, it must, notwithstanding, have afforded new excitements to the cultivators of our profession, and tended to render in some degree certain and fixed, what before was bewildered by a maze of superstitious doubt and remote analogies. If the expression of a once renowned practitioner be true—ars medica est tota in observationibus*—how gross must have been the observations of those who drew their conclusions from data derived from the most vague and unsatisfactory resources.

It is, however, a matter of most pointed exultation to all concerned, that we are destined to live in an age when the atmosphere of science has been long since pierced by the intellectual rays reflected from the minds of a Newton and a Bacon, and the gloomy clouds of ignorance and superstition

* Celsus.

have long since descended to the realms of night and the abodes of oblivion. May the efforts of future explorers in this department of science still meet with new rays to cheer them in their undertaking, and remove what yet remains of error and uncertainty. The writer of the following pages has embraced the opportunity afforded by the Medical Society of the State of New York, to deliver such opinions as he may find worthy of notice in the writings of others, and the suggestions of his own reason, in reference to the remote and exciting causes of *Phthisis Pulmonalis*. Previous to a more particular enumeration of what we conceive to be the more efficient remote causes of this disease, it will be necessary to premise some concise views of the subjects of respiration and the constituent ingredients of atmospheric air.

"In the human body, air is received into the lungs in consequence of a vacuum formed by the elevation of the ribs, with their action the diaphragm seems to correspond, and from a convex form towards the cavity of the thorax, it becomes nearly straight. It has been represented as becoming concave; but this is wholly inconsistent with the phenomena of muscular action. When the action of the intercostals is remitted, the chest falls in consequence of the elasticity of its ligaments, and relaxation is a constant alternating state, with contraction in every muscle, unless when diseased. This statement is now generally acknowledged to be correct; nor need we enlarge on the very different opinions which have been offered on the subject, or attempt to elucidate the difficulties, which, on either view, have been felt. The only remaining difference of opinion relates to the respective share of the diaphragm and intercostals in this function. The latter are said by some late authors to fix the ribs only, and that the enlargement of the chest is chiefly effected by the contraction of the diaphragm. Each, however, produces some effect, though the chief agent is undoubtedly the diaphragm. In women the intercostals seem to have a greater share in enlarging the thorax than in men, from the greater arches of the ribs, and the final cause is to assist respiration, when the motion of the diaphragm is impeded by the enlarged uterus. We have said that all the ribs are raised, and this is perhaps strictly true, though Sabatier contends that the lower ribs descend. (Memoir. de l'Academie Royale, année 1778). Other physiologists, have, however, drawn different conclusions, both from the structure of the parts, and from observation. It has been contended also, that as the external and internal

intercostals cross each other obliquely, their action must be different, and even opposite; but this has been fully contradicted by an experiment of Halley. In this experiment it has been found, that in inspiration the ribs did not approach, but rather receded, and the space was in part gained by their protruding the sternum. If, as we find in pregnant women near the time of delivery, the intercostals carrying on the function of respiration almost exclusively, so, at other times, it is chiefly, if not wholly, effected by the diaphragm. The union of the ribs with the sternum has been anchylosed sometimes with little injury to respiration, though more often with dyspnœa. When, from various causes, respiration is difficult, or, in other words, when water, inflammation, or other causes, prevent the access of the air and the elevation of the ribs, different neighbouring muscles are brought to the assistance of the several agents, particularly those of the thorax in inspiration, and those of the abdomen in expiration. To give a more fixed point to the former, the elevatores scapulæ are exerted, and the shoulders are raised. In the whole of this function, the lungs are passive; contiguous to the pleura, or at least separated only by an halitus, they are in contact with that part of the membrane which lines the ribs, both in inspiration and expiration, following in each the motions of the chest. The apparent object in this function is to expose every particle of blood in succession to the air. The circulation seems to stagnate through the serpentine vessels during expiration, and to flow freely, when these are distended by the distention of the lungs. This, though apparently obvious, has been denied, chiefly on the principle that the regular return of blood irritates the heart to a regular contraction. Yet, when the lobules are distended, the canals of the vessels are necessarily shorter, and, when respiration is more frequent, the pulse is quickened. Whatever be the state of this function, there is always sufficient blood carried back to stimulate the heart to regular action. The blood vessels, we have seen, disposed freely on the cellules into which the extremities of the bronchia terminate, and the containing coats are there so thin, that the wax of the injection exudes. Whether air can pass or re-pass, has been the subject of some controversy; and, however discordant the calculation respecting the extent of surface to which the blood is exposed, physiologists have generally agreed that it exceeds considerably the whole surface of the body. The changes produced in the atmospheric air from respiration are found chiefly to affect its

oxygenous portion: this is diminished, and water, in the state of vapour, with carbonic acid gas, are substituted.

"The necessity of a supply of fresh air in respiration must have been known from the earliest periods, but the source of this necessity was little understood, till Boyle found the respired air loaded with aqueous vapour, and diminished in bulk. Mayow, whose fair fame has lately been rescued from oblivion, showed that some principle, which he called a volatile etherial spirit, was imbibed from the air, and Dr. Black found that air respired contained carbonic acid gas. In this idea of the subject, the unfitness of the air for the continuance of life was attributed to its diminished elasticity, for it was only suspected that carbonic acid gas was not fit for the continuance of this function. At last, after a period of more than twenty years, the constitution of the atmosphere was taught by Scheele and Lavoisier. They found that the apparently homogeneous atmosphere was composed of two gases of different properties, the oxygenous and the azotic, in the proportion, if bulk be considered, of 22 to 78, if the weight, 26 to 74. This proportion of a fluid unfit for respiration, in air essentially necessary to life, was astonishing, till it was found that oxygen, like ardent spirits, was poisonous, by its destroying, from excessive stimulus, the excitability, and that, like it, to be innocuous, it must be lowered, (diluted.) Late experiments, however, seems to show that the azote is not wholly useless. In explaining the process of animalization, we found the necessity of some principle, which could reduce the newly absorbed nutriment to an animal nature, and this appears to be azote. Yet the idea is encumbered with difficulties. Azote is an excrementitious fluid; and the changes produced in the blood, from its circulation through the lungs, are apparently those from oxygen only. It is not, however, a very absurd idea that a principle at first necessary, may in the end be injurious from excess. In fact, Mr. Davy, in some very accurate experiments, found a remarkable deficiency of azote, amounting, in twenty-four hours, to about four ounces and a half."*

Prepared by the foregoing statements, we feel more ready to enter into the necessary considerations appertaining to our subject.†

* For the foregoing summary, the writer is indebted to article *Respiration.* *Parr's Med. Diction.*

† In the body of our essay, as will be observed, we had incautiously neglected to refer to those more recent observations and experiments on the chemical changes effected by respiration, which are principally based on

The prevalence of consumptive mortality, more particularly in this country and in Great Britain, has long been a theme of unfeigned regret to the philanthropist, and a cause of unmerited opprobrium on the medical profession.

Mr. Woolcombe has furnished a series of tables* intended to exhibit the general increase of all diseases, from the experience of the Plymouth Public Dispensary, from Nov. 13, 1798, to Aug. 31, 1805. In reference to phthisis in particular, he comes to the following conclusions: "The relative occurrence of phthisis appears from the first table to be as 1 to 22.27; and, on an average of three years in Dr. Willan's practice, it is found to have been as 1 to 29. Of its relative occurrence in other places, data are wanting on which to institute a comparison." The proportionate *fatality* of the malady is exemplified by a table consisting of two parts. The first contains a selection from the London bills of mortality of the positive number of deaths from consumption, at different periods, in the course of the last century and half. The second part consists of a few

the researches of Messrs. Allen and Pepys. For an acquaintance with the result of these researches, I am indebted to a highly ingenious essay on the "Decarbonizing Function of the Lungs," from the pen of Dr. Pierson, and contained in the first volume of the Transactions of the Physico-Medical Society of New York.† The following are the conclusions of Messrs. Allen and Pepys on this subject. "1st. The inspired air imparts none of its oxygen or nitrogen to the blood. 2d. The blood loses a principle, viz. carbon, which, by its union with the oxygen of the inhaled air, forms carbonic acid gas. 3d. The watery vapour found in expired air, is the serous discharge from the surface of the bronchial tubes. 4th. The blood derives heat from the decomposition of the inspired air, all the latent heat of the oxygen gas not being necessary to the formation of carbonic acid gas. 5th. The dark colour of the venous blood is owing to its being surcharged with carbon, and the bright scarlet colour of the arterial blood to its parting with carbon in the process of breathing." "The conclusions of these gentlemen," remarks Dr. Pierson, "as to the product of respiration, do not differ widely from those of Crawford, Lavoisier, and Davy, who supposed also the most prominent circumstance of respiration to be the separation of carbon from the blood; but, as to the quantity of oxygen consumed, the place of its union with the carbon, and the source of the aqueous vapour, there is a great disagreement. It would then appear that the principal design of respiration is to separate from the blood a matter which, if retained in any considerable quantity, is extremely deleterious to life, but which, in a certain limited quantity, is harmless. Carbon, as a part of the chyle, enters largely into the blood, and but a small portion of it seems to be expended in the processes of nutrition and secretion; the remaining part is conveyed out of the system chiefly through the medium of the lungs—it is, therefore, an excretion."

* Essay on the comparative Mortality of different Diseases, by Mr. Woolcombe.

† This Essay is also recorded in the volume of the London Philosophical Transactions, for the year 1808.

instances, casually obtained, of similar mortality in different places in the kingdom during the latter part of the last century. The following are the conclusions to which he arrives: "From the first part of the preceding table, it appears that the absolute and relative mortality from consumption has been gradually increasing during the last century, though it seems to have been considerably less in its relative proportion at the commencement of this period than it had been fifty years before." Shortly after we find the ensuing sentiments expressed: "As there is much reason to believe that the general mortality has for some time been on the decrease, relatively to the increasing population of the country, it admits of a question, whether the number of deaths from consumption, which, relatively to the number of deaths from all other causes, is without doubt very considerably augmented, is in reality increased relatively to the population of the country. In other words, does a larger proportion of the inhabitants of this island, (Great Britain) fall victims to the disease at present than did at the close of the seventeenth century." In several printed lists of the mortality of Portsmouth,* Mass. originally compiled by Dr. Lyman Spalding, and referring to eight separate years, between the periods of 1802 and 1811, the sum total of mortality during the whole time, was 938; that from consumption, 199; making this disease to bear a proportion of between $\frac{1}{4}$ and $\frac{1}{5}$ of the collective number of deaths. Dr. Spalding has proved that as great an amount of deaths occurs from consumption in a given time, and in a given population, in the New England states, as from malignant fevers in the southern states of the Carolinas and Georgia. It is proved, that from four to five thousand persons die annually in London of consumption. Woolcombe states it as the result of correct data, that 55,000 individuals fall yearly victims to this desolating disease in Great Britain. There is an observation of Dr. Willan's, accompanying his reports on the diseases of London, which we think it advisable to transcribe, as tending to qualify conclusions derived from the enumeration of bills of mortality, which, in England, as in this country, are subject to many inaccuracies from the mode of reporting, and the character of the persons by whom the statements are rendered. In my own list, says this esteemed author, the article of pulmonary consumption includes cases of ulceration of the lungs, and alteration of their texture, in consequence of pneu-

* Portsmouth, 43° 5′ N. lat. and 6° 26′ E. long. from Washington, and contained 6934 inhabitants in 1810.

monic inflammation and repeated catarrhs. I apprehend that not more than a fourth part of the whole number of cases put down, could be referred to pure phthisis, arising from the slow and successive suppuration of tubercles in strumous constitutions. The etiology of diseases has often been a subject of close contention among the physiologists and pathologists of every age. In many instances, refined attempts to discriminate between their various causes terminated in the adoption of a verbose complicated phraseology; while, on the other hand, too general distinctions have overlooked some of the grand and essential agents which concur in the production of morbid affections. By the remote and exciting causes of a disease, we may then be supposed to mean, both those operations from without, which, by divers methods, influence the healthy condition of our structure; and those, which by a more secret agency, *immediately* produce the morbid action. Here the attentive observer will recognize only new terms, for what by the older physiologists was understood by the *external* and *internal* causes. We doubt, moreover, if, for the majority of cases, a more simple and rational exemplification of causes can be produced.

By the remote causes, or existence of this disease, we then would desire to be understood, as intimating, both those, which by the direct influence they possess on the organ affected, produce the morbid result, as well as those, which, by inducing certain intermediate influences, concur in the developement of similar disease. We are aware, that this will comprehend, what by authors has been termed predisposing, or, as we have styled it above, *intermediate* causes, yet, we are of the opinion, that such an arrangement will be best suited for our present purpose.

The existence in the lungs, says an eminent pathologist,* whose observations in the course of our remarks will demand our particular attention, of those peculiar productions, to which the name of tubercles has been restricted by modern anatomists, constitutes the true character of consumption.

This we conceive to be as true and concise a definition of the malady as we could have supplied, and keeping it in view, we shall proceed to disclose what appears to us, in the first place, to constitute its principal remote causes. The connexion of the atmosphere we breathe, with the organic apparatus by which the process is performed, is too strict, to have escaped the notice of the earliest observers of the physical constitution

* Laennec.

of our bodies. The sagacious Boerhaave, marking well the intimate relations existing between the functions of respiration, and the various other processes of animal nature, and yet ignorant of the true philosophy of the subject with which late discoveries have furnished us, says, " summam in morbis difficultatem facere magnum numerum organorum quæ ad actionem concurrent et quorum aliquod lœsum totam functionem turbat."

We propose to divide the remote causes into those which stand connected with general atmospheric conditions, and which appertain to large tracts of country, and into those which depend upon individual circumstances. These circumstances are either those of occupation or of constitutional predisposition. Of occupation, as in those trades, where, from the artificial character of the air inhaled, or certain postures of body, a tendency is given to pulmonary affections—of constitutional predisposition, as from peculiar conformation of the thoracic cavity, from hereditary taint, as of scrofula, susceptibility to slight and almost imperceptible alterations of temperature, liability to frequent occurrence of cutaneous eruption, and consequent danger of repulsion ; or, in fine, any circumstance of habit, temperament, or accidental disease, which predisposes the pulmonary organs to phthisical derangement. It is a subject of trite remark, that those countries more especially noted for sudden and violent changes of weather, are most subject to the various grades of catarrhal affections and confirmed consumptions. On the contrary, those countries which experience a more mild, equable, and better regulated temperature, where the cold is neither so intense, nor the heat so intolerable, as are apt to occur in the former case, are proportionately free from such accidents. It was formerly a subject of much surprise to the naturalist and the traveller, that different situations on the earth's surface, marked by the same parallel of latitude, should differ so widely in the character of their respective climates. A few familiar examples will illustrate this point. In the southern parts of New England (says Volney),* between 42 and 43 degrees of north latitude, by observations made at Salem, near Boston, during seven years by Mr. Edward Holyoke, (Trans. Am. Philosoph. Society) and compared with twenty years observations made at Manheim, (Ephemer. Meteorolog. Palatina Manheim) it appears that the temperature of Salem is higher in summer and lower in winter, than that of several cities in Europe.† Again, the

* Volney's View of the Climate of the U. S. ed. 1804.

† Meaning, we presume, cities under the same parallel of latitude.

historians and naturalists of America have long ago noticed with surprise, that the climate of the sea coast was by many degrees colder in winter than the parallel regions of Europe, and even in Asia and Africa, adjacent to the Mediterranean; still they seem to have overlooked a circumstance equally remarkable, which is, that the heat of summer is, in like manner, greater by many degrees than that of the eastern hemisphere. Another accurate investigator* has remarked as follows, speaking in reference to the climate of this country: "Instead of remaining fixed and settled, the climate is perpetually changing and altering in all its circumstances and affections. And this change, instead of being so slow and gradual as to be a matter of doubt, is so rapid and constant that it is the subject of common observation and experience. It has been observed in every part of the U. S. (continues he) but is most of all sensible and apparent in a new country, which is suddenly changing from a state of vast uncultivated wilderness, to that of numerous settlements and constant improvements." Mr. Volney has furnished a table, exhibiting the respective latitudes of Rome, Marseilles, Padua, and Salem, with their least and highest temperature, and respective variations. From this it appears, that the difference throughout the year at Salem is 119¾°, while it is at Rome only 54°, at Marseilles 65°, and at Padua 87°. Generally in Maine, Vermont, New Hampshire, and Massachusetts, as stated by the same author, countries situated between 42 and 45 degrees of north latitude, parallels corresponding with the south of France and the north of Spain, the earth is covered every winter with snow for three or four months, so as to make the use of sleds and sleighs universal.†

"A little further north, namely, in Canada, at 46 and 47° north latitude, which corresponds with the middle of France, the snow begins to fall in November, and continues on the ground till the end of April, a period of six months, from four to six feet deep, with a clear and dry air. At Quebec, the mercury usually descends to 13 and 22 below zero; nay, the mercury was known in 1790 to freeze, which implies a still greater descent.‡ Now, such an instance seldom occurs in Europe, in latitudes below that of Stockholm and Petersburgh,

* Williams' History of Vermont.

† These assertions, however correct in point of fact at the time they were made public, must now be received with some qualification. Published 20 years ago, the face of our country, in various parts, has undergone considerable alteration, and our climate is proportionably ameliorated. Note by author.

‡ Liancourt's Travels, vol. 2. p. 207.

which are situated at 60°."* Philadelphia corresponds in latitude with Madeira, Valencia, and Naples. The general conditions of atmosphere, incident to large tracts of country, and upon which principally depend its sudden alterations, may be derived from the character of the soil, course and changes of wind, quantity of rain and evaporation, proximity to the seaboard, and, perhaps, from some other sources, which may have escaped our recollection.† There is no country on the face of the globe, where these positions may be so easily verified as in our own. We can hardly turn an eye to any portion of our extensive country, where the hand of cultivation has not produced those physical alterations which display the great influence such circumstances possess in creating and modifying disease. It seems, says Dr. Rush, as if our climate were a compound of all other climates in the world. We have the damp and gloom of Britain in the spring, the scorching rays of Africa in summer, the mild temperature of Italy in June, the cold and snow of Norway, and the ice of Holland in the winter, somewhat of the storms of the West Indies at every season, and the capricious winds and fluctuating weather of Great Britain, throughout the year. The general change of climate Volney ascribes to two causes. " First, to the clearing of the land, and thus producing a mass of warm air, which is constantly increasing. Secondly, to the access of warm winds through these openings, by which the country is dried more rapidly, and the atmosphere more heated. The course of winds is influenced by the character of the soil over which they pass, as well as by their passage over high mountains and extensive sheets of water. The north-east, north-west, and south-west are presumed to be the most prevalent winds in the U. S. Dividing the year into thirty-six parts, we may affirm that these three engross thirty or thirty-

* The mean cold at Petersburgh for twenty years, from 1772 to 1792, according to the reports of the Russian Academy, was at 23 below zero, but the general cold is not mentioned. The ice is formed 25th of September, and melts 25th of April, as it does at Quebec.

† A very philosophical and lucid arrangement of the various causes operating in producing particular changes of climate, will be found in the following quotation from the erudite and accomplished performance of Malte Brun, on the subject of Universal Geography: " 1st. The action of the sun upon the atmosphere. 2d. The interior temperature of the globe. 3d. The elevation of the earth above the level of the ocean. 4th. The general inclination of the surface and its local exposure. 5th. The position of its mountains relatively to the cardinal points. 6th. The neighbourhood of great seas, and their relative situation. 7th. The geological nature of the soil. 8th. The degree of cultivation and population at which a country has arrived. 9th. The prevalent winds."

two of those parts, the north-west and south-west having each twelve of them, while the east and north-east have six or eight. The rest of the year is distributed among the north-east, south, and west. The north can hardly be admitted to any share."

"General alterations in the climate from felling of the trees, and clearing of the lands, have been noticed by Dr. Rush in Pennsylvania, as well as by Mr. Jefferson in Virginia. The summers are longer, autumns later, winters shorter, lighter, and less lasting snows, with cold less violent." "When the settler moves into a new township, his first business is to cut down the trees, clear up the lands, and sow them with grain. The earth is no sooner laid open to the influence of the sun and winds, than the effect of cultivation begins to appear. The surface of the earth becomes more warm and dry. As the settlements increase, their effects become more general and extensive: the cold decreases, the earth and air become more warm, and the whole temperature of the climate becomes more equal, uniform, and moderate, at the same time the lands and roads become more dry and hard, the stagnant waters disappear, small streams and rivulets dry up, and the redundant waters are carried off. The number and quantity of the snows decrease, the winds receive new directions, and the weather and seasons become much altered. These changes every where attend the cultivation of the country; and have formed a remarkable change of climate in those states which have been long settled."* The same writer observes, that in Vermont, the north-west winds are dry, cooling, and elastic, while those from the south-west are more warm, moist, and relaxing. We may probably infer, that the character of the winds, in the northern and eastern sections of the United States, do not vary materially from what is here stated, in reference to the individual state of Vermont. The author of the "View of the Climate of the United States," whom we have before quoted, considering those remarkable alterations of temperature, to which our country is subjected, arrives at the singular conclusion, that throughout the continent of North America, *there is no spring*. This assertion, although in part certainly correct, as applied to the northern and eastern divisions of the country, is to be esteemed as savouring too much of that spirit of unqualified remark, for which the writer was noted, when applied to the southern states, where the distinc-

* Williams' History of Vermont.

tion of seasons is more marked and apparent. Speaking of the comparative quantities of rain in the United States and Europe, Volney avers, as the result of his examinations, that there falls more rain in the United States in fewer days, that there are fewer cloudy days, and more evaporation. Mr. J. (now general) Williams,* found, by a series of experiments and researches, that the mean quantity of evaporation at Cambridge, near Boston, for a term of seven years, was fifty-six inches, while in seven German and Italian cities, on a mean of twenty years, it was only forty-nine, making a difference of seven. But the cities of Italy are in a latitude much more favourable to evaporation than the vicinity of Boston, adjacent to the Atlantic Ocean.

In one year there were at Salem,	-	173 fair days.
At twenty cities of Europe,	- -	64 do.
At these cities there were, in 1785,	-	113 cloudy days.
At Cambridge, near Boston,	- -	69 do.
At Salem, taking the medium of 7 years,		90 do.

The reason of this rapid evaporation, M. Volney believes, is "because the winds are pure, in consequence of the general plainness of the surface, and because one of them, the north-west, which is certainly dry, prevails for two-fifths of the year." It is important to our subject to observe, that there is commonly more electric fluid in the atmosphere of the United States, than in Europe. This is unquestionably connected with the dryness of the air just noticed. Dr. Wm. Barton, in his notes to Dr. Gregory's Dissertation on Climate, as translated by him, makes the following observations in relation to the alterations of weather in the United States: "The range of the thermometer in these states is not unfrequently from 80° of Fahrenheit, in summer, to zero, or one or two degrees below it, in winter. In the present month, February, 1815, the mercury stood from 5° to 16° below zero, of Fahrenheit, in different parts of the United States."

There is a subject which stands in close relation to the other remote causes of phthisis pulmonalis, as applied to this country, which we deem of too much consequence to pass by; we mean the little connexion the mode of dressing in these states has with the ever-varying character of our climate. This point has been so often and so ably insisted upon, that we apprehend all that the most prudent lessons of foresight, and the earnestness of well-timed advice could suggest, has

* Trans. Amer. Phil. Society.

already been effected, and that nought will avail to correct the gross errors on this head, but the sad monitions of dear-bought experience.

While the empire of fashion bears so arbitrary a sway, and the followers of pleasure are bound by the fascinations of example, and the contagious influence of that spirit, which insinuates itself into the bosom of each and every of its votaries, so long will the sage precepts of wisdom be unheeded, till the emaciated form, the glassy eye, and hectic blush, speak in language too strong for utterance, that the warrant is issued, and the yawning grave stands ready to receive its devoted victim. I hardly know an object of more tender concern to the anxious parent, or the medical adviser, than a young and beautiful female, in the pride of youth, and the strength of intellect, borne down by the invasion of a malady, which has so often selected for its sacrifices the most amiable and interesting beings of God's creation. And when, moreover, all this can be traced to one single act of imprudence, one offering on the altar of fashion, who can forbear to utter a sigh, that such things should be? As well might the hardy inhabitant of Norwegian snows pretend to brave the rigours of his icy climate in the flowing robes of tropical indolence, as the native female of these states hope to indulge in the light costume of Grecian attire, under the influence of a sky far different from that of attic serenity. To explain further how the changes of climate above adverted to operate in becoming efficient remote causes of pulmonary consumption, would be to enter into details, with which the practical as well as theoretical physician is already sufficiently acquainted. We shall not, perhaps, however, be excused, if we do not, in some general terms, refer to the modus operandi of causes, which we have with some care endeavoured to exemplify. Nature has bestowed on man a certain and very remarkable aptitude for accommodating himself to such states of living as the various necessities of his race render him, from time to time, liable to. Thus the individual who shall remove from the arid plains of equatorial regions, to the colder latitudes of frost and snow, by a series of timely and long-continued precautions, acquires an alteration of physical habit, which will fit him for the altered chaacter of climate he now inhabits. In these instances, without doubt, the whole constitution undergoes a modification of functions, which enable it, if I may be allowed the expression, to sympathize with the external circumstances to which it is exposed.

The northern man, in emigrating to warmer countries, ere

long loses the vigour of frame and disposition to bodily exercise, which marked him while breathing the air of his native clime. On the contrary, the lax fibre, and sun-burned hue of the southern planter, is, by a removal to colder countries, exchanged for the robust form and sprightly animation, which is imparted by the invigorating qualities of his new abode. But to this doctrine there is a salutary limit. The wisdom of nature is apparent in all her operations, the minute and comparatively unattractive, as well as the magnificent and sublime.

While the various emergencies of our condition compel us occasionally to change our residence, if our constitutions were incapable of assimilating themselves to the divers atmospheric agencies to which we become subject, we would be compelled, in spite of many important considerations, to tie ourselves down to such localities as should have given us birth. But, while she has endowed man with this peculiar property, she has left him liable to suffer from such acts of rash and imprudent exposure to the vicissitudes of weather, as a more cautious conduct could have readily obviated.

When, therefore, these vicissitudes are encountered, their results are felt in the experience of some morbid action, which is thereby generated. It will become at once evident, that the organs of respiration in all such cases will be immediately concerned. It would be rather foreign from our purpose to enter into philosophical details, tending to elucidate the particular manner in which the abstract qualities of heat and cold influence the living system. Some few observations on this head must be received in place of more extended investigation. Popular prejudice has all along conduced to the belief, that sudden exposure to cold, when the body is heated, would be attended with extreme hazard, and this alone has been accounted one of the fruitful sources of disease. The researches, however, of more modern experimenters have tended in no small degree to qualify such conclusions.

Those of Dr. George Fordyce and Sir Charles Blagden, familiar to every person, are among the most important in evincing that exposure to a high degree of cold, after violent heat, is unattended with danger to the constitution. This fact is likewise confirmed by the mode in which the practice of bathing is conducted in Russia, and in several other countries, the inhabitants of which, " to heighten the luxury, and add to the refreshment of immersion in heated baths, or long exposure to vapour of high temperature, immediately

plunge into contiguous cold baths, or run into the open air, and, without the smallest covering to their bodies, roll themselves in snow."* In considering a fact of this kind, there are two particular circumstances to be noticed, to wit, the acquired vigour of the subjects to whom the practice appertains, and the inherent powers of reaction possessed by the animal economy. The hardy Russian, whose every fibre is made tense by the severity of his climate, suffers no harm from such practices, as the principle possessed by the system just adverted to, is put in action in a frame capable of enduring the influence of the opposite media to which it is exposed.

But this would afford no ground for believing, that the more tender frame of an inhabitant of the tropics, to whom of course, belongs the same general law of nature, could bear so severe a change with equal impunity.

A due regard to these contrary circumstances is required, when commenting on facts, from which such important conclusions may be drawn. Whenever rapid transitions are undergone, which are followed by powerful reaction, a proportionately firm character of fibre is requisite, that the shock may be sustained without great injury to the bodily functions, or, perhaps, a total suspension of vital action. The state of the body in relation to its susceptibility of being affected by cold media, has more reference to the *kind* than degree of previously existing heat, or, more correctly speaking, although an equal quantity of actual heat may be present in the system, such heat may be abstracted with greater or less facility and safety, according to the mode in which it has been generated.

The increase of temperature occasioned by what is termed an inflammatory action pervading the whole system, such as is sometimes observed in inflammation of the lungs; that attended with an extremely debilitated state of the vital power, as in instances of what has been improperly termed putrid fever; the heat consequent upon violent exercise; and that produced by communication from without, as in the example of hot baths, or exposures to other sources of great heat, while the body continues inactive, are all essentially different in their nature, and although in each case the quantity may be equal, and a thermometer applied to any part of the body's surface shall indicate the same temperature; yet, from such temperature alone, it would be improper to form a

* Essay on Phthisis Pulmonalis, by John Reid, M. D.

judgment on the expediency and safety of the sudden appli-tion of cold.

In the author's recollection, a case occurred of violent inflammation of the whole thoracic viscera, which speedily terminated in death, almost immediately following a large draught of cold water, when the body had been heated by unusual exercise. The deceased was, previously to the event, a strong and healthy man, in the prime and vigour of life.

In this case, the injury appeared to arise, not from the sudden abstraction of heat, but from the precipitate interruption of those *actions*, by which the increase of temperature had been generated.* Much has been said by those who dwell very earnestly upon the case of Alexander, and the great risk he encountered by bathing in the river Cydnus, when bathed in sweat.

Dr. Currie, however, has, in our judgment, very accurately conjectured, "that, from the length and difficulty of the march, he must have been cooled as well as debilitated by excessive perspiration and fatigue, and, under such circumstances, immersion in the cold and rapid Cydnus was followed by the consequences which we should expect from the principles already laid down." The rigour of his frame must, we may presume, have been temporarily suspended, and the temperature of his body to such a degree lowered, as to leave not sufficient room for the necessary reaction to occur.

Bearing in mind these conclusions, we must also recollect, that the alternations of weather to which we are more especially subject in this country act upon the system at a time when, unprepared for such attacks, no precautionary measures have been adopted, and we are consequently liable to all the effects arising from such exposure. The most common of these effects is, an increased and disordered secretion of the bronchial membrane, which lines the air passages, with general symptoms of fever. This will sometimes extend no further than the lining membrane of the nares, while, at other times, it will involve the membrane in its whole length. It is in these latter cases, that it is so very liable to be followed by genuine consumption. After this enumeration of remote causes of phthisis pulmonalis, *as connected with general atmospheric conditions*, we proceed to consider such other remote causes, as come within the more local circumstances we have above adverted to. And, firstly, those of occupation. Various mechanic arts, have, beyond all doubt, a very con-

* J. Reid's Essay on Phthisis Pulmona

siderable tendency to create a tendency to pulmonary consumption.

Some of them necessarily oblige those engaged to labour in apartments impregnated with artificial air, the inhalation of which thus becomes a constant source of irritation to the pulmonary organs. In others, a continued adherence to such postures of body as prevent a proper expansion of the chest, and thereby impede the office of respiration, are attended in the end with a difficulty of breathing, and other more serious affections of the respiratory functions. It is proper here also to notice the injuries sustained by the same functions, in the inspiration of the contaminated atmosphere of jails, prisons, and other places where the air becomes loaded with offensive particles, and unfit for every salutary purpose of sustaining life.* Among the various artizans, Dr. Cullen has enumerated stone-cutters, millers, and flax-dressers, as particularly subject to attacks of this disease. "But the most striking example," says another writer, "of this species of injury is afforded by one of the processes of the needle manufactory; it is that of dry grinding, by which the needles are pointed; the persons employed in this labour are universally affected in a short time with the symptoms of approaching consumption." They go on coughing, till they either spit blood, or a thick substance, having the appearance of matter. They decline in flesh and strength, and scarcely ever survive to the fortieth year. Dr. Kirkland observes that scythe grinders are subject to a disease of the lungs, from particles of sand mixing with iron dust, which, among themselves, they call the grinder's rot."† It is moreover asserted, on good authority, that the gilders of London die almost universally at a very early period. Certain other occupations are very properly thought to bestow an immunity from this extensive malady. Such are those of boatmen, watermen, sailors, and gardeners. Certain animals of the lower order are moreover supposed to enjoy a marked exemption, as dogs, while, on the other hand, cows, it is reported, are particularly subject to it. It has been remarked by other authors, says Dr. Beddoes, that asses in our colder latitudes are affected with scrofula and consumption,

* The author takes this opportunity to express his regrets on the one hand at the very deficient arrangement which has hitherto existed in our different penitentiaries, to secure to their unfortunate inmates that pure state of atmosphere so requisite to their health, and, on the other hand, his sincere congratulations, that by the more judicious plans pursued in the erection of some later buildings for that purpose, this subject seems to have met with the attention it so richly deserved.

† J. Reid on Phthisis Pulmonalis.

diseases to which we have no information that they are subject in their native climates.*

As a very interesting illustration of the agency exerted by particular modes of living, in giving rise to, or preventing pulmonary affections, I shall take the liberty of subjoining an extract of a letter from Dr. Cogan, a medical practitioner who had resided both in London and Rotterdam, to Dr. Beddoes,* containing some very apposite statements in relation to the modes of living, and liability of the Dutch to catarrhal complaints. Speaking of the mode of warming their apartments, he thus remarks—"Five or six turf, about the shape and size of our bricks, which is the usual fuel of the country, are arranged in the form of a chimney, and a glowing coal placed at the top, by which means the inward surfaces are enkindled, and the turfs are half consumed, before any share of a very moderate heat is received in the apartment. The females never approach the fire, but generally place themselves at the greatest distance, contented with a small coal of the turf completely charred in an earthen pot, filled with ashes, to moderate the heat. This is placed in a wooden box, with a perforated surface, and applied to the feet.

"Supported by this consolation, they prefer placing themselves at the greatest distance from the fire, generally by the windows, which, by the way, from their immense size, greatly contribute to the coolness of the rooms. In short, by the extreme airiness of their rooms, and warmth of their dress, they are secured against these extremes of heat and cold, to which the inhabitants of those countries are hourly exposed during the winter season. Their customs are a direct contrary to ours, it being customary among us to dress as lightly as possible, and render our apartments as warm as possible, by the united aid of large coal fires, double doors, warm carpets, and ceiled rooms, and by every caution that can prevent the external air from entering at chinks and crevices, to restore the balance of circulation. This contrariety in the mode of living, in these two essential articles of dress and habitation, will fully explain, my dear sir, the cause of the frequency of catarrhs in this country, and their being comparatively seldom in Holland, without imputing it, exclusively or principally, as some have done, to the general variableness of our climate. The transitions from heat to cold in Holland, are fully as frequent as in England, and the extremes of heat and cold are generally greater; but their effects upon the constitution are

* Essay on Pulmonary Consumption, by Thomas Beddoes.

by no means so immoderate or violent. Thus I fear, that the opprobrium that has been cast upon the climate of England, rather belongs to the injudicious conduct of its inhabitants. It has been remarked, that as luxury increases in Holland, respecting the greater comfort and accommodations of their apartments, they are becoming more subject to catarrhs." The circumstances of constitutional predisposition, which afford a bias to pulmonary disease, are connected with very various conditions of the system. Books of medicine have almost universally recognized the doctrine of the hereditary character of consumption. A belief in such doctrine, so far as it is connected, either with peculiar conformations of the respiratory organs, general temperament or habit of body, rendering the lungs more readily excitable into morbid states, or, in other words, more susceptible to impressions from without, is doubless in full accordance with known principles and every day's experience. By the same process of reasoning, we consider scrofula an hereditary disease. Any other view of this matter, whereby we are taught to believe in the more *direct* transmission of the disease from parent to child, is unauthorised and gratuitous. The connection between scrofula and consumption, will hereafter demand our special attention. Exanthematous eruptions, in constitutions liable to be affected by comparatively slight and imperceptible causes, as of variations in the atmosphere, by not unfrequently so acting on the surface, as to repel the eruptions there existing, and produce local determinations, more particularly to the lungs, constitute sources of phthisis. Authors have enumerated other bodily appearances as characteristic marks of a tendency to this disease. The narrow chest and high shoulders, already noticed, weakness of the voice, whiteness of the teeth, fairness of complexion, and light hair, have all been observed to accompany a predisposition to this affection. Much reliance, however, we apprehend, cannot be placed upon these signs, except where a number of them concur in the same person. The undue action of the lungs, excited by much and loud public speaking, blowing on wind instruments, as well as such severe bodily exercises of any kind as are connected with hurried states of the respiration, become predisposing causes of pulmonary derangement. The habits of sedentary men, as of those confined within the precincts of a cloister, as also the class of the clergy, generally by a deficiency of bodily exercise, and too close attention to the studies of the closet, dispose the sanguiferous system to slow and sluggish action, and thus indirectly promote chronic affections of the pulmonic tissue, or of some other organ

essentially important to the well being of the animal economy.

We are now prepared to enter on the second principal division of our essay, which consists in the investigation of the exciting causes of phthisis pulmonalis. As preparatory to this undertaking, I shall annex a brief outline of the anatomy of the organs of respiration. " In anatomical descriptions of the human body, we find a division of its trunk into two portions, the thorax forming the superior, and the abdomen the inferior part of this division. The boundaries of the thorax exteriorly, are, however, not defined with sufficient precision to admit of a correct delineation. The two cavities of the chest and abdomen, are formed by the intervention of a large and powerful muscle (the diaphragm), which is the organ principally concerned in the mechanism of respiration, and by the alternate contraction and relaxation of which, the dimensions of each cavity are materially affected. The bones of the thorax, on the relative position and strength of which depends its variety in form and magnitude, consist of the ribs, situated laterally, the sternum or breast bone occupying the anterior, and a number of the vertebræ, or divisions of the back bone, the posterior part. Of these several bones, the ribs alone are destined for any considerable motion, in those alternate contractions and expansions of the thorax, which constitute the act of respiration. The breast bone and vertebræ, in their relation to the chest, are principally designed to give form, strength, and covering to the thoracic cavity, and to serve as fulcra to the ribs, with which they are connected, by distinct and moveable articulations. The external muscles, which are either remotely or directly connected with the functions of respiration, are in general found to correspond, both in magnitude and strength, with the bones to which they are attached, and do not admit of any description that would be intelligible to the general reader, or at all applicable to the subject of consumptive affections. The lungs, which occupy the principal portion of the cavity of the chest, are two soft, spongy bodies, corresponding in figure with the osseous coverings of the thoracic viscera, that have been just described. They are chiefly composed of cells; these cells are minute ramifications of the bronchia, which last are sub-divisions of the trachea, or wind pipe, that long tube, composed principally of cartilaginous rings, which, commencing in the fauces, descends on the anterior part of the neck, divides primarily into two branches, that supply each division of the lungs, by separating first into the smaller bronchial tubes, and ultimately ramifying into membraneous vesicles or air cells, that in

this manner constitute, as just stated, the principal portions of these organs. Interposed, however, between these vesicles, there is a quantity of cellular substance, which has no connexion with the cavity of the air cells, but connects these cells together, divides each lobe or lung into separate lobules, forms a surface for the innumerable divisions, and almost inconceivably minute ramification of blood vessels, that are every where dispersed over them, and gives strength and substance to the general structure of the lungs. The blood vessels of these organs, which, as will be shortly seen, are of such important consideration, in reference to the several functions of the animal economy, are formed of branches of the pulmonary artery and veins. The trunk, from which proceed the minute ramifications of the pulmonary artery, arises from the right ventricle of the heart, whose alternate and successive dilatations and contractions receive and propel every particle of circulating blood, previously to its distribution throughout the body. Thus conveyed by the contraction of the ventricle, and muscular force of the arteries through their extreme branches, the blood is re-conducted by corresponding branches of veins to the left auricle of the heart, to be carried, by means of a separate and distinct system of vessels, through the extreme course of general circulation. Besides the parts already enumerated, as entering into the composition of the lungs, they are likewise supplied with lymphatic or absorbent vessels, and with nerves. By a membranous expansion of considerable strength (the pleura), the whole internal surface of the thoracic cavity is covered, and, by a continuation or reflection of this membrane, is divided into two distinct partitions, which are entirely without communication, and in each of which one of the lobes of the lung is enclosed, as in a separate and appropriate capsule. A further reflexion of this membrane, by being expanded on its surface, furnishes an entire envelope to either lung." It is curious to observe the fallacies connected with the opinions of the ancients on the subjects of the remote and proximate causes of disease. They held various sentiments in reference to the existing cause of phthisis. It was either some acrid corroding humour, produced in the brain, and, by some inexplicable means, falling down upon the lungs and destroying their texture; or it was the existence of some acid or alkaline substance, or some acrimony of the blood, depending upon certain conjectural chemical changes. Even animalculæ have been supposed, by their irritating presence in the pulmonary tissue, to cause this disease. Modern writers have formed far different notions on this important sub-

ject, some of which, as will be seen, however, have received much improvement from the late investigations of the French anatomists.

It will probably be a useful illustration to our subject, to state the arrangements adopted by the more celebrated nosologists, in relation to this disease. Sauvages ranks it as 2d genus of 1st order (macies) 10th class (cachexies), and defines it thus: corporis emaciatio, cum amphi-merina lenta, tussi, dyspnœa, et ultiplurimum puris sputo. Linnæus arranges it as 1st genus of 1st order (emacientes) of 10th class, (deformes). Marcor cum hectica, tussi, dyspnœa, expectoratione purulenta copiosa. Vogel places it as a genus of the class cachexies—Extenuatio corporis cum febre lenta, vel hectica, dyspnœa et tussi. Sagar, genus of order 1st (macies) class 3d (cachexies) Corporis emaciatio cum amphi-merina lenta, tussi, dyspnœa, et ut plurimum puris sputo. Ab initio rarius in phthisi adest puris sputum, in statu contra, et fine semper. Cullen assigns to it a place as a sequel of hœmoptysis, which is found in the 4th order, (hœmorrhagiæ) of class 1st (pyrexiæ). He thus defines it—Corporis emaciatio et debilitas cum tussi, febre hectica, et plurumque expectoratione purulenta. He constitutes two species, the incipient and confirmed. Pinel, who, of all the modern nosologists, has probably the best claim to such a division of disease as is best calculated to convey correct ideas of the connexions existing between the disease itself and the general character of the functions implicated; makes phthisis a genus under 2d section (læsiones organicæ quibus hoc vel illud organum afficitur), order 1st (læsiones organicæ generales), (5th class, læsiones organicæ). He subdivides it into phthisis, tuberculo simplex—species complicata. A more extended enumeration of symptoms than is contained in any of the definitions above given, would properly lead to a consideration of three different stages of the disease, to each of which appertain its appropriate signs. Thus, the first, or forming stage, is marked by some degree of cough, more or less troublesome, especially at night, and while enjoying the recumbent posture. Pains experienced at the sides of the chest, sometimes only at one side, sometimes in front, under the sternum, expectoration not generally free, and of a mucous character, disposition to feverish action at night, some loss of appetite. The second, or formed stage, is characterized by encreased violence of cough, expectoration purulent, evident dyspnœa, pain more fixed, pulse quick with tension, the tongue bearing a white coat, change of countenance, bowels inclined to constipation. No relief being ob-

tained, the febrile paroxysms are observed to be more intense and ensuing with greater regularity, preceded by a feeling of chilness, and terminated by perspiration, more or less profuse, rapid increase of debility, almost total absence of pain, expectoration still decidedly purulent, or perhaps of sanious character, total loss of appetite, regular night sweating, less tension of pulse, except during the exacerbation of the hectic, and colliquative diarrhœa. This forms the 3d stage, and, especially where the last symptom supervenes, is succeeded by dissolution. For the immediate elucidation of this part of our subject, we shall offer some few distinct propositions, the explanation of which will constitute our present purpose. 1st. Phthisis pulmonalis has claims to be considered as an idiopathic disease. 2d. The previous existence of inflammatory symptoms, is not necessary to the development of phthisis pulmonalis, but that such as are characteristic of irritation, existing in a greater or less degree, do commonly occur.* 3d. Tuberculous formations are the real proximate

* The term irritation is one of those which seem to have afforded no little ground of cavil to the physiologists and pathologists of every age. The vagueness of idea comprehended under the term appears, with some authors, to have almost induced them to discard it from their notice, as being of too undefined a character to admit of special cognisance. Our own impressions are, that blame is rather to be attributed to the irregular manner in which the term has been employed, than to any defect arising from its mere inherent ambiguity. The same unfortunate results have ensued from the confusion and misapplication of the terms *contagion* and *infection*: the distinctions between which have been too little regarded by European writers and most others who have devoted their thoughts to the subjects connected with these important agencies. We cannot, for a moment, refuse our assent to a certain principle of irritability, or something extremely analogous to it, which is somehow remotely connected with the vitality of our systems. This must correspond with the *vis insita* of Haller, and the *inherent power* of Dr. Cullen. But this principle, like every other connected with the functions of the animal economy, is liable to action irregular or depraved. A difficulty, however, presents itself in our attempts to explain these actions, to appropriate to them their particular symptoms, and to distinguish them from the characteristics of common inflammation. We are not here contending for the doctrines of that nervous irritability which depends probably upon causes yet more undefined and abstract than those, the phenomena of which we are now considering. We refer to that principle of vitality, which, under the names before quoted, has claimed the contemplations of Haller and Cullen, and which sir Gilbert Blane designates by the term *state of tension*. As applied to the muscular power, he thus defines it: "No muscle, whether voluntary or involuntary, can act, unless the fibres are previously in such a state, that, if divided, they would shrink by their resiliency, leaving an interval between the cut extremities."† In like manner, Bichat, speaking of an inherent power with which he supposes the capillaries endowed, rendering them altogether independent of the primary

† Blane's Med. Logic.

impulse, afforded the larger vessels by the actions of the heart, thus expresses himself: "Dans le systeme capillaire générale, la contractilité organique insensible, ou la tonicité, reste seul pour cause de mouvement du sang."* Will an increased action of this principle, producing some determined result, different, according to the individual circumstances of the case, terminate in a morbid state when applied to the pulmonic tissue, marked by that altered condition of the gland which constitutes a tubercle? Is it any other than an increased action of this principle, which, in cases of scrofula, produces the enlargement of the gland? If so, this principle must surely be distinct from inflammation, the symptoms of which are more readily defined and more easily recognized. How far it is in any manner allied to that species of inflammation which has been denominated subacute, and which has to so excellent a purpose engaged the thoughts of the illustrious Broussais, it may be a nice point to determine. It would probably conduce to a right apprehension on this subject, to consider the characters of these two principles, as applied to the various tissues, and as described by Bichat. A very interesting article, touching this matter, will be found in the fourteenth number of the New York Medical and Physical Journal, extracted from the London Medico-Chirurgical Review, and entitled, "*Diagnosis between Irritation and Inflammation of the Mucous Membranes of the Bronchiæ.*" Although of some extent, we cannot deny ourselves the gratification of inserting it in toto. M. Nauche thinks he has discovered a chemical test of bronchial inflammation in the secretion from the mucous surfaces. In the natural state, or where there is merely *irritation*, the mucous secretion he has found to be acid, while, on the other hand, when actual inflammation obtains, the nature of the secretion is changed, and it becomes alkaline. The two states are readily recognized by turnsol paper, which turns red with the one and blue with the other. M. Nauche has examined the expectoration with respect to its alkaline and acid character, in the diseases of the respiratory organs. He believes, from this inquiry, that they may be divided into matter produced by irritation, an increased secretion from the mucous follicles which line the membrane of the air passages, and into matter, or expectoration, which results from their inflammation. He has observed that the white, mucous, frothy expectoration, which is frequently brought up in large quantities by persons in a state of agony, has always an acid character, when the air passages have not been the seat of previous disease. This character is likewise found in the white frothy expectoration which occurs during the whole continuance of pleurisy, whether acute or chronic, and at the commencement of pneumonia, when the matter expectorated is white, or even yellow. It is often lost in the course of this disease, and re-appears towards its decline. The acid expectoration is likewise found in emphysema of the lungs and scrofulous phthisis, when the tubercles are but little developed, in the state called crude. It is evident, in all these cases, that the mucous membranes which furnish the expectoration are only in a state of increased excitement, and that they are in no degree inflamed. M. Nauche has likewise found acid expectoration in certain advanced cases of phthisis. He believes that this depended upon these matters being the product of an increased secretion of the mucous membrane lining the excavation formed by the tubercles. The expectorated matters, on the contrary, are always alkaline in inflammation of the mucous membrane of the bronchia, and in all the cases designated by the names of acute and chronic colds, or mucous phthisis (phthises muqueuses). Although this expectoration is not regarded as purulent, it is, nevertheless, a kind of pus peculiar to inflammation of these membranes, and analagous to the purulent serosity which is furnished by serous membranes when in a state of inflammation. The expectoration likewise be-

* Bichat. Anatomie Générale.

cause of this disease.* I have thought it necessary to discuss the subjects contained in the first two positions

comes alkaline in peripneumony, when the inflammation of the pulmonary tissue communicates itself to that of the mucous membrane of the bronchia; and this secretion is the product of the inflammation of these two tissues. The expectoration is likewise alkaline in phthisis pulmonalis in the second or third stage, when the tubercles become broken down. It is usual, in such cases, to find the internal membrane of the lungs deeply altered. It frequently happens, particularly among phthisical patients, that both these kinds of expectoration are to be found in the same vessel. That which results from an augmented excitement comes up most easily, is white, frothy, and acid; the other is brought up with difficulty, is yellow, thick, and alkaline. In this disease, when the patient has only the former kind of expectoration, his life is often in the greatest danger." We have, doubtless, much yet to learn in reference to the phenomena both of inflammation and irritation, more especially of the latter. What has been advanced may perhaps serve, at least in some degree, to establish opinions on the particular attributes which attach to them. Further investigations and disquisitions on this point, suit neither our present leisure nor inclination. Some future, and, we hope, no very distant opportunity will supply both.

* When we speak of the proximate cause of a disease, an association arises in our minds tending to connect such proximate cause with the disease itself. It is by no means at all times an easy task to point out the distinctions which should, in strictness of speech, be maintained. We have, in the text, adverted to the opinion of Laennec, that the existence of tubercles in the lungs constituted the true character of consumption. We have, moreover, asserted it as our opinion, that tuberculous formations were the proximate cause of this disease. Is, then, the proximate cause of the disease in no respect different from the disease itself? This question, if scrupulously weighed, will be found, many times, to embrace subtleties which, without extreme caution, may lead to erroneous deductions. The following observations, from the learned Van Swieten, are in point.—"The causes of diseases are two-fold, viz. either immediate or remote. The immediate cause is that which, being present, constitutes the disease, and, when absent, it is cured. But the remote cause of the disease is that which so disposes the body, while it is present, as to render it fit to receive the disease, provided another cause should be joined to it; therefore, neither of these causes existing alone produces the disease, but, being united together, they constitute the disease. The remote cause inherent in the body is called the predisponent; the other, which comes after it, is called the *procatarctic*, or simply the *occasion*, which is only hurtful to those in whom the predisponent cause existed."† Again. "The proximate cause of a disease is said to be the whole of that which constitutes it into the being of a distemper, and whose present existence directly implies and continues the disease, as the absence of it removes the disease."‡ We shall not be accused of want of comprehension if we again ask, in what circumstances or accidents does the proximate cause of diseases differ from the morbid affection itself? It differs, we have been informed, from the remote cause, in being within the body, and only arising as an effect from causes exterior to the system. It differs from the predisponent cause, in being confined in its operation to the part sustaining the precise morbid action, while the predispo-

† Van Swieten's Commen. vol. 10.
‡ Van Swieten's Commen. vol. 11.

as essentially requisite to enable us to collect such information, and deduce such inferences as will more readily conduce to the establishment of our main intention, namely, to prove, as far as we have the ability, the existence of tubercles, as the proximate or exciting cause of phthisis pulmonalis. It will be observed, of all the nosologists above referred to, Cullen alone has preferred to assign a place to this disease, as a mere sequel, or as consecutive to a primary generic affection.*

nent cause is frequently of a general nature, and affecting the system at large, being determined by causes of a more accidental kind to the development of the specific malady. It may arise, however, as the result of one or of both these agencies combined, and *it* produces in its turn the *disease itself*. It consequently stands to the disease itself in the closest relation of cause and effect. "Hujus præsentia ponit, continuat, morbum. Hujus absentia eum tollit. *Est fere eadem res ipsi integro morbo.*"§ But, although almost, it will be allowed not to be altogether *eadem res* with the disease itself. It is, then, the primordium of the morbid action within the system, consisting in the irregular operation of some part or function of the system, but commonly, if not always, of too undefined a character to admit of accurate delineations; yet, by its operations, constituting "the being of a distemper." Now, however this may serve to assist us in affixing ideas of some definite character to the employment of those terms, it will often be extremely difficult to express, in language sufficiently precise, in what consists the nature of those changes preceding the development of a particular disease. It will be, for aught we can prove to the contrary, absolutely impossible, under certain circumstances, to separate in idea, much less convey in language, our sense of the appropriate distinction. Thus, in phthisis pulmonalis, there must doubtless occur some morbid changes ere the tuberculated gland is formed; and, as these tuberculous formations, to employ the term used in the text, on the high authority of Laennec, constitute consumption, we might be thought liable to the charge of inaccuracy when we have asserted in one of our positions, that these formations were the proximate cause of the same disease. It might be retorted upon us, by way of query, do physiologists allow a disease, when formed, with its various attributes, to be in no wise different from that complication of causes, however obscure and intricate, which were exerted in its formation. We urge it as our belief, that they do not; but render our excuse in saying, that we are here, as in many other instances, obliged to yield the assent of our faith to principles deeply woven into the structure of our frames, but which physiology, and her sister pathology, just awoke from a long night of obscurity, and ushered into the daylight of sound truth, have not yet illuminated with their meridian beams. Until that epoch arrives, our readers must be content with ourselves to abide in the dim twilight of such knowledge as we possess, and receiving our position in the more common, though not, perhaps, the more philosophical or abstract acceptation of terms, travel with us in the path we are about to pursue; and if, in our endeavours to demonstrate the proximate cause of consumption, we have unfolded its seat, we shall have, at the least, the satisfaction of having more subserved the practical interests of science and humanity, than by adopting a long course of erudite research, for which our present attainments do not qualify us.

* Macbride, in his Nosology, has adopted the same course. He makes phthisis, with tabes, a species of a genus, to which he gives the name Hec-

§ Institutiones Medicinæ. Boerhaave.

What renders Dr. Cullen's assignment of this disease the more remarkable is, that it involves a positive contradiction, between its situation in his nosology, and his opinions in relation to it, as delivered in his First Lines. While in the one instance he has chosen to consider it as the sequel of an hemoptysis, he has in the other expressed an opinion that the disease arose from another source. Is it not probable that this venerable teacher in medicine may have subjected himself to unmerited reproach, as being ignorant of that which the numerous dissections performed in the very seminary in which he held so distinguished a place, as well as elsewhere, would have decidedly taught him, that the existence of tubercles was almost universally observed in the bodies of those, who had fallen victims to this malady. The following are his own expressions. "I now come to consider the 5th head of the causes of phthisis, and which I apprehend to be the most frequent of any. This I have said in general to be tubercles, by which term are meant certain small tumours, which have the appearance of indurated glands." And in another place. "In one case, and that too a very frequent one of phthisis, it appears that the noxious acrimony is of the same kind, with that which prevails in scrofula. This may be concluded from observing, that a phthisis, at its usual periods, frequently attacks persons born of scrofulous parents, that is, of parents who had been affected with scrofula in their younger years. That very often, when the phthisis appears, there occur at the same time some lymphatic tumours, in the external parts, and very often I have found the tabes mesenterica, which is a scrofulous affection, joined with the phthisis pulmonalis. To all this I would add, that even where no scrofulous affection has either manifestly preceded a phthisis, this last, however, most commonly affects persons of a habit resembling a scrofulous, that is, persons of a sanguineo-melancholic temperament, who have very fine skins, rosy complexions, large veins, soft flesh, and a thick upper lip; and further, that in such persons, the phthisis comes on in the same manner that it does in persons having tubercles." Is it not, then, an inconsistency in our author, to speak of a disease as being most frequently connected with a general condition of habit, and also to refer it in a nosological arrangement, as a mere sequel of a topical affection? If we may be allowed to imagine what were the errors by which Dr. Cullen was betrayed

tica: a mode of proceeding, surely, very unphilosophical, when the hectic fever is, in each of these affections, a mere symptom of the constitutional derangement.

into this inconsistency, we should adopt this train of reasoning in their explanation. He had observed, in the first place, that the external circumstances of habit, which mark a predisposition to a pulmonary hemorrhage, bear some degree of analogy to those which imply a predisposition to more serious pulmonary disorder. These are the fair complexion, the narrow chest, the high shoulders, the long neck, and superior irritability of habit, remarked in both cases, but frequently depending upon different causes. Besides this, he could not have escaped remarking, that hemoptysis and phthisis were very apt to make their appearance about the same time of life, that is, the age of puberty, and from that to thirty, or thirty-five years of age. A regard to the common and combined operations of the animal economy, would, however, easily serve to explain the simultaneous occurrence of the two diseases. There is a period in our lives, at which the different systems of vessels which constitute our frame, arrive at a condition of full and general developement. This period is that, at which we attain the growth of our bodies, and the maturity of our intellects. At this time, the nervous, the sanguineous, the lymphatic constitutions, arrive at the full intensity of their several powers. The habit now seems to be under the mutual influence of those physical agencies, in their state of developement, the just balance between which, is in after life to constitute so important a mean of preserving health. But if, at this time, through the exertion of various and contrary agents, one set of organs shall have obtained a predominance of action over any other, it will evince itself in the production of such morbid results, as flow from the irregular operation of the paricular organ implicated. Has the sanguineous temperament obtained the ascendancy? we may expect hemorrhages from some one part of the sanguiferous system, most liable to be affected on such occasions. Is it the lymphatic temperament which enjoys the mastery? We may expect some of those glandular enlargements which are the most common indications of a strumous habit. It is gratifying to adduce in behalf of these opinions, the testimony of a very eminent modern pathologist. M. Broussais maintains, that as it is the superior developement of the nervous and sanguiferous systems, which disposes certain persons to the neuroses, to acute inflammations, and to hemorrhages, an analagous constitutional disposition, in which the lymphatic system enjoys a remarkable predominance of action, is the organic condition which renders other persons so liable to morbid enlargements of the lymphatic glands. The scrofulous dia-

thesis, he considers to be, merely the lymphatic constitution carried to the highest degree, and which may be transmitted from parents to their children, just as the sanguineous and nervous temperament may be transferred.* We have alluded to the irritability of constitution designated as a forerunner to each of these diseases; but let it be borne in mind, that it depends upon very different circumstances. The irritability connected with the habit prone to hemorrhages is derived from or connected with general rapidity of the circulating system, with a tendency to particular determinations. That presaging phthisis arises from the weak condition of the lymphatic tissue, favouring such obstructions in the pulmonary organ, as prevent the proper decarbonization of blood, and becomes a cause of difficult respiration. Other arguments for not considering phthisis as a sequel to hemoptysis, consist in the purulent character of the expectoration, a characteristic termination of the former disease, but a very unusual termination of the latter. Hectic fever never attends the latter, but almost invariably accompanies the former. In the former, the pulse, at all times rapid, wants the tension and fulness attendant upon the latter in its active stage, and the debility which marks its passive. Other differences might be stated, but enough has been advanced to prove the impropriety of the arrangement of Dr. Cullen, and to verify the claims which phthisis pulmonalis possesses, to rank as an idiopathic distinct affection.

Secondly. The previous existence of inflammatory symptoms, is not necessary to the developement of phthisis pulmonalis, but symptoms characteristic of irritation existing in a greater or less degree, do commonly occur. The efforts of pathologists, as we have already observed, until a compatively late period, have been directed by observations, made without due circumspection, and collation of facts not so arranged as to subserve the point at issue.

Having been long accustomed to regard every morbid appearance, which in any degree resembled purulent matter, as the product of inflammation, and such purulent matter being always furnished from what was styled an ulcer, or abscess, they were naturally at a loss to conceive how a fluid ejected from the lungs, and so closely allied to pus, could be otherwise generated, than as the product of previous inflammation in the same organs. In aid of this belief, they were accustomed to view this condition of the lungs, occasionally

* Notes to Morgagni. De Sed. et Caus. Morb. by Dr. Cooke.

occurring after every symptom of acute inflammation. We do not pretend to deny, that the inflammatory process in the lungs, as in other parts of the system, may be followed by the production of pus, or even run on to the state of gangrene; although the more common termination is undoubtedly that of resolution. When, however, purulent matter is expectorated from the lungs, as a consequence of pneumonia, we are not a little inclined to the opinion, that a morbid state of the organ is thereby induced, essentially distinct from that which constitutes genuine phthisis. There are two circumstances connected with this inquiry, which will demand from us some attention, namely, the existence of lymphatic glands in the lungs, and the relations existing between consumption and scrofula. On the former subject, antient anatomists and physiologists were much at variance. There is no doubt moreover, that the opinion of the deservedly eminent author of the Morbid Anatomy* has had great tendency to create a disbelief in the existence of such glands. He thus expresses himself. "There is no glandular structure in the cellular connecting membrane of the lungs, and on the inside of the branches of the trachea, where there are follicles, tubercles have never been seen." Mr. Hewson held the same notions on this subject, with Baillie. Dr. John Reid was also inclined to this belief, seemingly influenced by the declaration of Dr. Baillie. While he disclaimed the prevalent idea of tubercles being necessarily connected with, or dependent upon a scrofulous diathesis, he thus attempts to explain their formation. "Tubercles," says he, "may be regarded as the consequence of slight and repeated inflammation, originating in the mucous membrane of the lungs, and extending itself into the cellular texture of these organs, depositing the matter of which these bodies are constituted, which remains unabsorbed and inactive, until excited into the formation of abscess, by fresh and repeated irritation." It will be also proper here to mention another author of celebrity† on the subject of consumption, who, discrediting the existence of these bodies in the tissue of the lungs, has ingeniously contrived an explanation of the source of tubercles, predicated upon an alteration which he supposes to take place in the exhaling vessels of the lungs, whereby, instead of throwing out their accustomed lymph, their character becomes changed, rendering them capable of producing a more viscid fluid.

* Baillie.

† Essay on the Nature and Cure of Phthisis Pulmonalis. By Thomas Reid, M. D.

"The same cause, continuing to act, may increase that viscid quality, till it shuts up their extremities, and constitutes the small granules every where found in diseased lungs, termed tubercles." Portal, in opposition to these arguments and assertions, endeavours to form a distinction between the lymphatic glands of the lungs, and the bronchial glands. Naturally, he says, the lymphatic glands are very different in their structure and situation, from the bronchial. They are much smaller, and also rounder, and harder to the touch, and resemble the other lymphatic glands. But the distinction between them in the morbid state, he found more remarkable than in the natural, having frequently found most of the bronchial glands altered in the lungs, whilst the lymphatic glands were perfectly healthy, and vice versa. In reference to Morgagni, and others, who entertained the opinion that there are no lymphatic glands in these viscera, Portal observes, "Les medecins practiciens ne distinguent jamais les alterations de ces glandes. Soit qu'ils parlent des tubercules formés dans les poumons des asthmatiques, soit qu'ils traitent de la phthisie, de la naissance ou d'autres especes de suppuration des glandes du poumon, c'est presque toujours d'une maniere vague, et en confondant celles qui affectent ces deux especes, quoiqu'elles different entres elles aussi essentiellement, que les parties dans lesquelles elles ont leur siege." He conceives it indispensible, however, to make a distinction, before a correct idea can be formed, relative to phthisis, and consequently before any truly efficient remedies can be employed. Like the other lymphatic glands, he found those of the lungs presented a considerable diversity of morbid appearances, and particularizes obstruction, inflammation, and suppuration. In five persons who died of phthisis, but who had not expectorated pus till a short time before death, the lymphatic glands were affected in different ways. Some were enlarged, and filled with a chalky substance, such as is found in glands of this nature, in others, the substance had softened and become puriform, others were in a state of suppuration, and the adjacent substance had ulcerated.

He explains the varieties in the degree and seat of pain, by referring to the adhesions which take place between the lungs and pleura, the diaphragm, or other parts, and the aphonia, or paraphonia, which is sometimes very remarkable in phthisical persons, he ascribes to an injury of the recurrent nerves, from those parts of the lungs which receive branches, from the nerves being diseased. In the phthisie de naissance, or hereditary phthisis, he maintains, that the lymphatic glands

are the seat of the disease, and the bronchiæ, either sound, or only secondarily affected. In three infants of Mr. B. which died phthisical, Portal found the lungs full of concretions; some were red, and, as it were, fungoid, others appeared to possess the nature of wens, others were as hard as scirrhi, and some were suppurated. Most of the bronchial glands were healthy, but some which were contiguous to the lymphatic glands had undergone a change in their appearance. He was confirmed in the opinion of the lymphatic nature of this disease, from the circumstance, that the glands of the mesentery, those along the neck, the œsophagus, &c. were swoln, and full of a gypseous matter. (Portal sur Plusieurs Maladies.) Morgagni avouched the hydathic origin of tubercles in the pleura, and peritoneum, and in the texture of the viscera; and this subject has been ably dilated upon by Drs. Barron and Genner.* We have no means of deciding the accuracy of these distinctions, but, as Dr. Baillie has laid much stress upon the absence of tubercles in the follicles of the bronchiæ, we are induced to the supposition, that the tuberculous degeneration does not attack glands of that character. We think we may fairly indulge in the opinion, that such affections of the glands, as are marked by the common symptoms of obstruction, as tumefaction, partial redness, and disposition to suppuration, only affect those of more complicated structure, while the follicle has been deemed an example of the most simple gland.† We can easily see why the former would be more readily influenced by all the causes tending to produce obstruction, and from actual observation, it appears that they alone, on such occasions, sustain the morbid action. Among others who have maintained the opinion of the lymphatic constitution of the lungs, is Cruickshank. In his valuable work on the lymphatics, he remarks, "the glands at the root of the lungs are commonly of a blue colour." And again—"The glands at the root of the lungs are also frequently black." Cullen speaks of tubercles, as having the appearance of "indurated glands." Broussais accedes to the belief of the existence of glands in the lungs. Laennec seems to leave the question undecided. If the opinion of Malpighi, which has been supported by Morgagni, be correct, that the glands are composed of a cellular structure, might not their close connexion with the cellular connecting membrane of the lungs, have

* Cooke's edition of Morgagni—notes.

† Malpighi first assigned the name folliculus, to a simple character of gland, and Hewson entertained the idea that they merely consisted of convoluted arteries.

been one means of their existence having been denied by such reputable authority? Haller also was inclined to assign to them a cellular structure.

The connexions which link together diseases similar to each other in some of their properties, are sometimes strongly marked, and at other times only to be recognized by strict and attentive study. When these connexions depend upon sympathies, it may be either owing to relations sustained between parts by nervous connexion, or from a similarity of original organization. Thus, when in hepatitis a pain is experienced at the top of the shoulder and clavicle, it is evidently traceable to nervous connexion. But where the testes becomes tumefied, while the patient is suffering under parotitis, or where, in cases of bubo, the superficial glands on the inside of the thigh assume the same action, an analogy in structure is doubtless the cause by which they are so readily made to sympathize.* Scrofula is universally allowed to be a glan-

* The doctrine of sympathies presents another of those subjects of complex consideration which exhibit themselves to the mind of the contemplative philosopher. To deny their agency, would be rash—to attempt their explanation, hardly less so—causa latet, vis est notissima. On all abstruse questions, one of the readiest and most correct modes of procedure, consists in the establishment of certain divisions or boundary lines, by which a great whole may sometimes be comprehended by a very ordinary intellect. Thus, when we declaim of sympathies generally, the mind is apt to lose itself in loose generalizations, and wander amid a series of crude and isolated references. It was, doubtless, a want of such system, which, in a great measure, clothed all the observations of the older medical writers on this subject in language too vague to be strictly comprehended, and gave a sanction to conclusions too gross and illogical to obtain the assent of our understandings. 'Tis not our intent, on the present occasion, to cite those various opinions which, from time to time, have been advanced to clear away the mysteries which are attached to this doctrine. We are, however, as little inclined to favour those views which make the nervous system the exclusive source of sympathetic feeling. That the nerves are the grand agents, at least in the majority of cases, we do not hesitate to admit, but, at the same time, we would that due regard should be paid to other phenomena, where their controlling influence cannot be allowed. Such were the sentiments with which the author was deeply impressed, as expressed in the essay, when he accidently met with a passage in professor Chapman's "Elements of Therapeutics," which attracted his attention, as embracing sentiments similar to his own. After combating the idea of referring sympathy exclusively to the nerves, he thus more fully discloses his views: "But there are many other sympathies, not less conspicuous, between parts, the nerves of which have not the slightest connexion. It appears, that, either by the cooperation of different organs in the performance of a function, as in the complex apparatus subservient to respiration, or from similarity of structure, parts, though detached, being prone to be affected by the same cause, as the parotid gland and testes in the male, and the same gland with the mammæ in the female, the habit of acting in unison is acquired, and sometimes confirmed." Much space, indeed, is yet left to be occupied by more extended research on this very important theme. If I do not greatly err, it will be found, by future observations, that the study of bodily sympathies

dular disease, and whether its primary seat be in the mesentery or not, the lymphatic system, by the swellings of the neck, first announces its action upon the living frame. Now, if glands of the same character, beyond all just dispute, have their seat in the lungs, by what other circumstances, it may be inquired, should we be guided in endeavouring to ascertain if any and what relationship is, by the laws of the animal economy, established between these two affections? When diseases resemble each other, we naturally expect to find them induced by similar causes, both of a remote and proximate character. Universal experience has decided that the same external circumstances, which favour the production of phthisis, are also very liable to create scrofulous disorders: atmospheric humidity possesses, in both cases, a very powerful agency. The singular affection which has been observed upon the Alpine mountains, with the deformity of stature which occurs in its valleys, it being, in the one case, an enlargement of the thyroid gland, and, in the other, an affection of the spine, doubtless of the same character with rickets, both depend upon the endemic constitutions of the air to which the inhabitants are subject, and are both marked with symptoms which serve to ally them to what occurs in the scrofulous diathesis. Perhaps the most convincing of these symptoms is the similarity of results obtained by dissection, for in examining the bodies of those who have died of rickets we commonly find a diseased state of the mesenteric glands, similar to what appears in cases of scrofula.

We do not stop to notice such opinions as have been entertained in reference to the production of the goitre, by which it is ascribed to the use of snow water, or other equally unsatisfactory causes. This opinion has indeed received from

forms an important link between the operations of body and mind—the laws which govern our physical economy, and the principles which appertain to intellect, with all its ennobling and elevating attributes. Indeed, the notions, however limited, which we thus acquire of mental attributes, is infinitely more in accordance with those lofty conceptions which we entertain of intellectual essence, than the vagaries of the craniologist, or the impious conjectures of the votary of materialism. Whatever that faculty may be by which we think, in whatever mode its influences are exerted, Providence has not denied to man either the inclination or the ability to scan, in some degree, its peculiar agencies. When his talents are thus employed, he is engaged in a pursuit eminently calculated to embolden his ideas, and raise him from the grosser matters of earth, to a sort of approximation with the Divine original. But the vanity of human philosophy has no bounds. To form rational opinions, to ascend, by certain gradations, to a certain acquaintance with the mysteries of mind, is awarded to man—to know intimately,—to regulate,—to control,—to create, is reserved for his Maker.

Dr. Saunders, a reply which we conceive totally overturns it. He mentions that the disease is frequent in Sumatra, where ice and snow are never seen, and that it is quite unknown at Chili and in Thibet, " though the rivers in these countries are chiefly supplied by the melting of the snow with which the mountains are always covered."* Now, if we examine those conditions of atmosphere in which phthisis most frequently occurs, we shall be led to the conclusion that they are much of the same character with those which we have adverted to, as operating in the production of the maladies above referred to. Morbid states of the lungs are very often met with in those who have died of scrofula. That some difference does really exist between those states of the air which are influential in creating scrofula, and those which produce consumption, we pretend not to deny; and as the subject is one of lively interest, we shall proceed to deliver our sentiments on what we believe to constitute this difference. By referring to the comparative amount of ravages committed by scrofula in Great Britain and the United States, we shall discover the balance to be very largely in favour of our own climate. The universal dampness which prevails in Great Britain forms a striking contrast to the ever varying complexion of the climate of this country.

When, on the contrary, we make an estimate between the extent of consumption in this country and Great Britain, we are struck with the infinitely greater proportion of deaths on this side of the Atlantic, from this one cause. It has indeed been always observed, that scrofula was most prevalent in those regions where there existed great humidity of the surrounding atmosphere. From this, and similar views of the subject, we are decidedly impressed with the correctness of the following positions: First, That such conditions of climate as are marked by long continued dampness of the atmosphere, and absence of the sun's rays, whereby the body is deprived of its natural elasticity, the free passage of the electric fluid is impeded, and the tone of the muscular fibre diminished, produce a languor of the system, a preponderance of nervous influence, and a liability to such glandular obstructions as are connected with the general symptoms of depraved digestion and vitiated process of chylification, such as seem to constitute scrofula. Secondly, That such conditions of climate as are marked by frequent alternations of temperature, at one time evincing all the mildness and serenity of

* Saunders on Mineral Waters.

a southern sky, and at another time suddenly assuming the chill and dreary aspect of the northern blast, whereby the body is exposed to the operations of agencies so contrary, as to destroy the balance of the circulation, and invite tropical determinations to the respiratory organs, impeding their natural functions, and creating the common symptoms of dyspnœa, cough, &c. are prone to terminate in such affections of the pulmonary glands, as constitute phthisis pulmonalis.

We presume, that these distinctions will be considered as of some importance, when we reflect upon the almost constant language that has been held upon this subject, when referring in general terms to the points of similarity between these diseases, without inculcating such mere philosophic views, as are taught us, when we attempt to investigate the precise characters of their remote causes. We could explain by the same method of reasoning, as we have above adopted, the superior number and violence of acute diseases, experienced in this country, to those which occur in Great Britain, and on the other hand, the greater proneness there experienced to fevers of the typhoid kind. Other points of similarity between these affections might be traced, of a more undefined character, there being in each case, a more particular reference to the part primarily sustaining the morbid action. Thus, in the incipient stages, both of scrofula and consumption, a cough frequently attends, but in the first case it is commonly dry, and without tendency to expectoration, and the principal uneasiness seems referable to the abdomen, which will be found in a tumid condition, and accompanied with deranged powers of digestion, constipation of the bowels, &c. In the latter case, where the catarrhal affection is primary, there will appear symptoms of febrile irritation, with increased mucous expectoration; while any attendant constipation of the abdominal viscera is to be regarded as secondary to the original affection of the bronchial membrane. Other points of analogy, as the hectic fever, general emaciation, loss of appetite, &c. might be insisted upon, but they are the results of dissection, which probably furnish us with the most direct and conclusive evidence of their similarity. Dr. Beddoes, in his Essay on Consumption, has afforded an extract of a letter written to him, by a gentleman of the name of Bowles, surgeon at Bristol (England,) whom he had requested to compare the subtance of tubercles and scrofulous lymphatic glands. The following is a part of his observations on this interesting subject, as contained in the work of Dr. Beddoes. "I have not noted down any observations on the resemblance between tubercles

and diseased mesenteric glands, but in the examination of dead bodies I thought I could discover real proofs of affinity between them. Their different stages are similar, tubercles are frequently found almost as hard as cartilages, apparently inorganized, and, on trial, impervious to injections.* Diseased mesenteric glands, are met with in the same state, except that I have not endeavoured to inject them. In other instances they are both found to contain a curd-like matter, floating on a thinner fluid, and sometimes I have discovered ossific matter in them both. In cases of tubercular phthisis, I have repeatedly seen the mesenteric glands so similar in appearance to the tubercles, that if the latter had been removed from the surrounding lungs, I do not think it would have been possible to distinguish them." Having premised thus much, before we attempt to draw such conclusions, and adapt to our purpose such arguments as shall illustrate our position, I shall claim the liberty of advancing the opinions of some few eminent authors in relation to the necessity of previous inflammatory symptoms to the formation of phthisis pulmonalis.

Laennec, after speaking of such varieties of tubercles as had met his notice, observes, " We must not, however, conclude that these tuberculous degenerations were here the effect of the inflammation, since, setting aside their infrequency, compared with the frequency of this disease of the lungs, I have often had occasion to observe this variety of tubercles, and to the same extent, in subjects whose lungs were in every respect quite sound. Besides, M. Bayle has completely proved, that tubercles cannot be regarded either as a termination or consequence of inflammation." The variety of tubercles he here refers to, was not deemed, by the author himself, as possessing any thing peculiar in their character, but as a mere modification of their more ordinary appearance; and we may therefore conclude, that what he has expressed on this subject, will equally apply to the general characteristics of tubercular degeneration. Dr. Andrew Duncan maintained the same views, and he thus expresses himself in the introduction to his inestimable work on pulmonary consumption: " But there can, I think, be no doubt that it (phthisis) may justly be considered

* To a person whose opinions on the nature of these bodies is not formed, they would be readily recognized as inorganic, and the difficulty of injecting them is easily accounted for, when we remember that much nicety is required to inject lymphatics, in their healthy condition. As far as respects the resemblance between tubercles and diseased mesenteric glands, I feel myself authorized, so far as opportunities have presented themselves to me of making autopsic examinations, to confirm the assertions of Mr. Bowles. *Note by Author.*

as an important genus by itself, and that it not unfrequently makes its approaches in such a gradual and imperceptible manner, as to be beyond the power of art, before it be certainly discovered to exist." The analogy existing between this disease and scrofula, which we have been at some pains to explain, may, we conceive, now be made properly to serve as an argument in behalf of our present position. It will be, moreover, now understood that this was our intention, in instituting such investigations as we have already made; and in doing which, we have been obliged to state explicitly the circumstances wherein they coincide. The analogical argument we would draw from this, is, that as they assimilate to each other in so many important particulars, and as scrofula does generally occur without any previous inflammatory symptoms, consumption may, in like manner, invade, without the previous existence of such symptoms. But this matter deserves consideration in another point of view, we mean the simultaneous occurrence of tubercles in various parts of the body, with phthisis, and where no antecedent symptoms of inflammation had evinced themselves. Mr. Bayle enumerates the following parts, in which he has discovered tuberculous formations, in the order of their relative frequency, in connexion with disease of the lungs. The bronchial, the mediastinal, the cervical, and the mesenteric glands; the other glands throughout the body, the liver, in which they attain a large size, but come rarely to maturation, the prostate, in which they are often found completely softened, and leave, after their evacuation by the urethra, cavities of different sizes, the surface of the peritoneum and pleura, in which situations they are found small and very numerous, usually in their first stage, and occasion death by dropsy, before they can reach the period of maturation, the epididymis, the vasa deferentia, the testicle, spleen, heart, uterus, the brain, and cerebellum, the bodies of the cranial bones, the substance of the vertebræ, or points of union between these and the ligaments, the ribs, and lastly tumours of the kind usually denominated schirrhus or cancer, in which the tuberculous matter is either intimately combined with, or separated in distinct patches from the other kinds of morbid degeneration existing in these.

It was, doubtless, from a close consideration of these and similar circumstances, that Laennec was induced to make the following strong assertion. "I am led to believe," says he, "from many facts, that, in the majority of cases of consumption which terminate favourably, by the formation of fistula, or cicatrices, the patients have undergone the different pro-

cesses of the developement, solution, and evacuation of tubercles, without any suspicion of being affected by a more serious disease than a nervous cough, or, at most, a suspicious catarrh." We are very much inclined to the opinion, that if medical men would endeavour to recollect the primary symptoms with which the greater number of their patients have been attacked, previous to the formation of phthisis pulmonalis, they would discover very few, if any, which had been characterized by actual inflammation. In those cases where inflammation of the lungs has been produced by external injury, we do not find that they induce consumption, but more commonly the wounds of the organ cicatrize. Numerous are the instances in which the lungs have been wounded by a small sword, and even by balls, from which the patients have happily recovered. Bierling mentions one, in which a hundred and twenty ounces of blood were lost; and a German author describes a case, in which a ball passing through each lobe, did not prove fatal. In one instance, the right lobe was wholly exposed, and in several a part of the lung was cut off.

"Abscesses also in the lungs, when not from vomicæ, heal easily, though calculi, which are confined to the bronchial glands, are usually forerunners of hectic."* A learned author on the subject of climate,† advances the opinion, "that a simple injury of the lungs, and a rupture of their vessels, can never induce an incurable ulcer, and pulmonary consumption, unless the lungs themselves, or the general habit, have previously become contaminated with some taint." It may be asked, if there be not a rupture of the pulmonary organ, whence proceeds the bloody discharge which so frequently occurs in the first stage of consumption. It arises, we believe, in accordance with the views of Broussais, from a mode of action of the sanguineous capillaries of the part analogous to inflammatory irritation. When, in opposition to what we have observed, as regards such injuries as produce acute inflammation in the lungs, we contrast such mechanical irritants as do daily terminate in the production of consumption, we do not find the latter of a class calculated to excite active inflammation; but that they produce irritation, first of the bronchial membrane, and then of the lymphatic glands of the pulmonary organ.‡ This process is commonly slow, and marked by its separate stages. Let us not be understood as denying that consump-

* Parr's Medical Dictionary, article Pulmon.

† Gregory on Climate.

‡ Witness the inhalation of fine powders in various mechanical employments, as before referred to.

tion may ensue upon inflammation of the lungs, and that, too, produced by external injury—our only intention has been to prove, that such inflammation was not necessary, and did not generally occur.

If we analize the principal symptoms which mark the approach of consumption, we shall be enabled to explain them, as easily produced, without supposing the existence of inflammation in any part of the thoracic cavity. The irritable cough, the difficult respiration, the febrile activity of the pulse, with such other appearances as present themselves, may all depend upon increased mucous secretion, and perhaps some effusion of lymph among the air cells of the lungs, impeding their regular action, and thus disturbing the harmony of the sanguiferous system. "No sooner does the secretion into the air passages exceed that which can be removed by expectoration, than accumulation begins, and a part of the cells of the lungs, which should receive air, becomes filled with secreted fluid. This increasing, must necessarily prevent the due performance of the function of respiration, that function, without which, life cannot be sustained. The blood no longer is changed from the dark or venous to the vermillion hue, and the colour of the body partakes of the leaden or livid shade. If the accumulation proceeds, respiration becomes more and more obstructed, the phlegm may be heard rattling in the air passages, and the patient sinks suffocated."*

We have asserted, finally, that tuberculous formations are the real proximate cause of phthisis pulmonalis. If it be true that consumption consists of an affection of the lymphatic glands of the lungs of the same character with scrofula, or, in other words, that consumption is scrofula, affecting the lungs, whence proceeds the purulent matter ejected to a large amount in most instances of consumption, so different in its appearances from the productions of diseased lymphatics. It has been always common for writers to speak in general terms of ulcers in the tissue of the lungs. Thus Dr. Cullen: "In every instance of an expectoration of pus, I presume there is an ulceration of the lungs." Such ulceration, however, we believe to be very rare, if by it be meant that solution of continuity of the part affected, to which, in a surgical sense, it has been restricted. "The formation of distinct abscess of the lungs as a consequence of inflammation, was at one time, generally admitted among pathologists. Laennec, however, who describes sup-

* Alcock, on Inflammation of the Mucous Membrane of the Organ of Respiration.

puration of the lungs under his third degree of pulmonary induration, maintains, that it is exceedingly rare, and gives it as the result of his observations, that small abscesses are found in the pulmonic tissue, not above four or five times, and an extensive one, not above once, in many hundred cases."* If then this matter be not formed as a consequence of the common ulcerative process, there must be something peculiar in the formation of these tuberculous masses, by which pus is generated. This peculiarity, we believe, consists in its secretion from a membrane, by which the tuberculous degeneration becomes encircled, and which will be more satisfactorily described in the words of Mr. Bayle, who, in speaking of the excavations formed by the destruction of tubercles, in the last stage of what he terms tubercular consumption, observes that they are covered by a distinct membrane, which secretes the pus. "When this membrane is not found (he continues), there is always an albuminous membraniform bed, which supplies its place, except where a suppuration has occurred in that part of the tissue of the lungs which became inflamed, at the time that the softening of the tubercular encysted degeneracy took place." This very ingenious writer has divided consumption into six different species, but at the same time concedes, that, as might indeed be readily conjectured, many of them may be united in the same person. First, tubercular phthisis. 2d, Granular phthisis. 3d, Phthisis with melanosis. 4th, Phthisis from ulceration. 5th, Phthisis from calculi. 6th, Phthisis from cancer. Under the fourth head, phthisis from ulceration, he makes the following observations, which we transcribe, both as tending to confirm our idea of the very rare formation of distinct ulcer of lungs, and also of the use subserved by the lining membrane, in the generality of cases; but which, in these instances, the pus being thrown out on the surface of the ulcer, as in other parts of the body, and depending upon previous pulmonic inflammation, is discovered not to exist: "The fourth species is very rare. The tissue ulcerates, and the ulcer is never covered by an albuminous membraniform layer, nor by any distinct membrane. It exhales a fœtid gangrenous odour. Its surface is unequal and irregular, covered with brown decayed parts, and generally exhibits traces of recent or remote hæmorrhage. The ulcer is sometimes large enough to contain three pullet's eggs."

He affords the following statement of the comparative frequency of these different species, from the results of nine hun-

* Edinburgh Medical and Surgical Journal, Jan. 1824.

dred dissections. First species, six hundred and twenty-four. Second, one hundred and eighty-three. Third, seventy-two. Fourth, fourteen. Fifth, four. Sixth, three, equal 900. The very large proportion of cases arising from tubercular derangement, and the very small number from ulceration of the tissue of the lungs, will not, I hope, fail to be strictly noticed. We conceive the distinctions not to be well adapted for practical purposes, because we think the 2d and 3d species to be merely varieties of the first. If we refer to such divisions of consumption as have been adopted by medical writers, we shall be enabled to ascertain how far the origin from tubercles has been properly appreciated; while we shall offer such remarks on the divisions themselves, as private deduction, and the more refined investigations of the present day furnish to us. Dr. Duncan, sen. has divided pulmonary consumption into three species: the catarrhal, the apostematous, and the tubercular. He supposes, that in the first modification, "the expectorated matter is merely separated from an inflamed surface, in a manner similar to the separation of pus from a blister issue." In the second, from "an abscess of considerable size, which may be formed in the cellular substance of the lungs, as well as in any other part of the human body." In the third, "from a tubercle, or from the part surrounding a tubercle, terminating in suppuration, and commonly yielding, not proper purulent matter, but rather an ichorous sanies, somewhat resembling that, which is often yielded by lymphatic glands in cases of scrofula, when scrofulous tumours terminate in suppuration." We are of opinion, that this divison is defective, inasmuch as it connects together, two diseases of a character widely different, namely, a mere increased secretion from the tracheal or bronchial membrane, and an affection of the lymphatic substance of the lungs, in other words, catarrh and consumption. We are well aware that in many instances, it becomes very difficult to discriminate between protracted catarrh and incipient consumption; but this does not justify us in making them varieties of one generic disease. Such a distinction is moreover likely to mislead, in confounding that morbid condition, which, more frequently than any other, *precedes* phthisis with that which *constitutes* it. Our author very correctly observes, that the tuberculous form of consumption is most frequent and most hazardous. M'Bride considers phthisis in the first instance as primary or secondary, and adopts the following varieties of the primary: phthisis sicca, phthisis mucosa seu catarrhalis, phthisis hemoptoica. Of the secondary: phthisis scrofulosa, scorbutica, syphilitica, arthritica, hypochondriaca,

chlorotica. Here it will be observed, that the characters of the primary, belong to such morbid derangements, as may and do constantly occur, without being followed by genuine consumption, and thus form totally distinct affections; while those of the secondary only apply to such different constitutional tendencies, as afford a bias to this disease, without in any degree specifying the more precise condition of the organ affected.

Nothing is said by this writer in particular reference to the origin or peculiarities of tubercles, and the methods of treatment he has enforced are vague and unsatisfactory. The divisions of Cullen (incipiens et confirmata) only relate to the separate stages of the disease, and with what propriety they are named species, I am at a loss to conjecture. M. Broussais divides phthisis into constitutional and accidental. The terms employed convey with sufficient accuracy the discriminations intended to be maintained, and seem well adapted to impress such views of the subject as are justified by strict physiological observations. We might extend our notice of these divisions; we have probably, however, sufficiently adverted to them, to exhibit the general basis on which they have been founded. There are so many opposite points of view in which morbid degenerations may be regarded, that it will often become a very difficult task to select such as shall, either best accord with the most correct theory, or be best calculated to apply to practical purposes. In forming, for instance, the varieties of phthisis pulmonalis, we may be guided either by the different appearances assumed by the lungs, under different circumstances, or we may refer to the causes which have been most essential in producing these circumstances, or to the general habit of body by which they may chance to be accompanied. Inasmuch, however, as in the phthisis arising from tubercles, the purulent matter is derived from one source, and where proper abscess occurs from another, and as in the first instance, it is strongly marked by general lymphatic tendencies, and often accompanied by simultaneous lymphatic derangement, while in the other case, it most generally arises from a previous attack of acute inflammation induced by external circumstances, or the more common exciting causes, we might perhaps be enabled to institute such a division as shall bear some relation to each of these conditions.

We have before adverted to the infrequency of pneumonia, as antecedent to tuberculous phthisis, while we are decidedly of the opinion, as we have before intimated, that the

character of the symptoms which mark its inroad, are such as might, with great propriety, be referred to more violent chronic catarrh, but without the diagnostics of acute inflammation. Predicated upon such sentiments, we would divide consumption into, 1, *phthisis tuberculosa vel ex catarrho ;* 2, *phthisis apostemata vel ex pneumonia.* We conceive that such a division, if kept in view by the practitioner in medicine, would lead him to the particular consideration of the premonitory symptoms by which his consumptive patient was attacked, and thus more readily enable him to pronounce a judgment on the rational hope of cure. It would, moreover, induce him, while watching more narrowly the commencing symptoms, to urge upon parents and friends such timely advice, as may yet rescue the object of their affections from the insatiate maw of this fell destroyer.

We do not hesitate to declare it as our unreserved and candid opinion, that, in many instances, the medical adviser will forewarn, very seriously, those concerned in the welfare of his patient, of the danger of approaching consumption, unless the severity of present symptoms should subside; when lo! the enemy has already entered the frail fabric of his victim, and is probably too firmly intrenched to be dislodged by the combined powers of skill and experience. But, perhaps, he has waited for the developement of inflammatory symptoms, and stands ready, with lancet in hand, to meet their indications; if so, we fear he has often sacrificed the lives of those committed to his trust, in compliance with the dogmas of an insecure faith, or the prejudice of long cherished opinions. Had he exchanged the maxims of the closet for the benefit of personal examination, and made his own deceased patients the subject of his instruction, he would often have found the tuberculous lung without any of the appearances which denote previous inflammation, and been taught a lesson of lasting utility. The error of such writers as have made consumption a constant sequel of pneumonia, will, we imagine, be sufficiently apparent, from what we have advanced on this topic. Those who have gone so far as to deem pneumonica the proximate cause of the disease, thereby disregarding the important influence of the tuberculous formations, have most certainly mistaken the true theory of the subject.

After having thus noticed the regard paid to tubercles, as the proximate cause of phthisis, by some authors of eminence, and throughout the whole tenor of our remarks adverted to their existence, in this point of view, we proceed, in conclusion,

to mark their more particular characters, and their separate stages, as assigned by those writers who have made them their especial study. It is thus, upon the observations made in dissection, that we are mainly obliged to rely in framing our argument, on this head. There is no author on this point, to whom we can with so much propriety refer, as to M. Laennec, whose description of these glands, will be found to comprise much interesting and minute observation. We dare presage the period in the history of medical investigations, when strictures on the morbid condition of parts, made with such philosophical accuracy, as those of this distinguished pathologist, will, more than the reiterated assertions of schoolmen, and the fanciful theories of the speculatist, elevate our profession above the gross and vulgar errors which have too long attached to it, and bestow on it that rank among the liberal pursuits to which it is so eminently entitled. "These bodies, when first observable in the substance of the lungs, have the appearance of small, semi-transparent grains, greyish or colourless, and varying from the size of a millet seed, to that of a hemp seed. In this their first state, they may be called *miliary* tubercles. These gradually increase in size, and become yellowish and opaque, at first in the centre, and, successively, throughout their whole substance. In their progressive and natural increase, several unite together, so as to form larger masses of the same kind, which, like the individual ones, are of a pale yellow opaque, and of the consistence of very firm cheese. In this stage, they may be named *crude* or *immature* tubercles. It is in this stage of their progress that the substance of the lungs, which had been hitherto healthy, begins to grow hard, greyish, and semi-transparent round the tubercles, by means of a fresh production, and seeming infiltration of tuberculous matter in its first or transparent stage, into the pulmonary tissue. It also sometimes happens, that considerable portions of pulmonary tissue, put on this character without any previous developement of individual tubercles. Parts so affected are dense, humid, quite impermeable to air, and exhibit, when cut into, a smooth and polished surface. Gradually there are developed in these comparatively solid and pellucid masses, an infinity of very minute, yellow, opaque points, which, increasing in size and number, at length convert the whole diseased space into a tuberculous mass, of the kind named crude, or immature. In whatever mode the tubercles have first shown themselves, they at length, after a very uncertain period, become first softened, and finally liquefied. This

change of consistence commences in the centre, and progressively approaches the circumference. In this stage, the tuberculous matter is of two different kinds in appearance, the one resembling thick pus, but without smell, and yellower than the immature tubercle, the other, a mixed fluid, one portion of it being very liquid, more or less transparent, and colourless, less tinged with blood, and the other portion opaque, of a caseous consistence, soft, and friable. In this last condition, which is chiefly observable in strumous subjects, the fluid perfectly resembles whey, having smaller portions of curd floating in it. When the softening of the tuberculous mass is completed, this finds its way into some of the neighbouring bronchial tubes, and as the opening is smaller than the diseased cavity, both it and the latter remain of necessity fistulous, even after the complete evacuation of the tuberculous matter. It is extremely rare to find only one such excavation in a tuberculous lung. Most commonly, the cavity is surrounded by tubercles in different stages of their progress, which, as they successively soften, discharge their contents into it, and thus, gradually form those irregular and continuous excavations so frequently observable, and which sometimes extend from one extremity of the lungs to the other." The above remarks our author deems applicable, as being the general characteristics of tubercular derangement, and, although we have already allowed ourselves a lengthy quotation, we shall, as the subject merits very faithful elucidation, take the liberty of transcribing two other appearances, which these bodies occasionally present, and which are thus described : " The above is the ordinary mode, in which tubercles are developed ; but there are two other modes, which, although mere varieties of the former, are yet deserving notice. The one is, where, in a lung containing tubercles in different stages, we find small portions of the pulmonary tissue, seemingly infiltrated by a gelatinous-looking matter, of a consistence intermediate between liquid and solid, transparent, and of a light greyish or sanguineous hue. In these diseased portions, the cellular structure of the lung is quite destroyed, but we can perceive in them a multitude of very small points, of a yellowish white colour, and opake, and which are evidently portions of the tuberculous matter, which has reached the second stage of its progress, without there being any surrounding portions of the greyish substance, which denotes the first stage. The second mode of anomalous developement of tubercles, appears likewise to take place, without any previous formation of grey matter, at least, if there be such, the transition from it to the second stage is so rapid,

that I have never been able to detect its presence. In this variety, we find here and there in the lung, tuberculous masses of a yellowish white colour, much paler, less clear, and differing less from the substance of the lung than the ordinary immature tubercle. These masses are irregular, angular, and have scarcely ever the rounded form of ordinary tubercles. They seem, like the variety described in the preceding paragraph, and like the diffused, grey matter, noticed before, to be an infiltration of tuberculous matter into the pulmonary tissue, while the proper, or rounded tubercles, are foreign bodies, which separate or press it aside, rather than penetrate it. These masses may, therefore, properly enough be named tubercular infiltration of the lungs. They occupy sometimes a considerable portion of one lobe. When they reach the surface, they occasion no prominence on the part, nor in any degree alter its form. As they increase, they assume the yellow colour of the tubercles, and terminate by softening in the same manner. These three varieties of tuberculous degeneration are often found in the same lung. Sometimes I have found this last variety alone, in lungs affected with peripneumony, and this even in the hepatised portions. In these cases, the small number and extent of the diseased masses, and their deep pale colour, shewed their formation to be recent."

We have thus attempted, in the foregoing pages, to deliver our sentiments in relation to the remote and exciting causes of phthisis pulmonalis. In all medical research, there is an accuracy of thinking, there is a pertinency of observation, without which, in the wide field of medical enquiries, we are ever apt to be lost and bewildered, among the various relations of the objects which present themselves to our regard.

It has been said by an able philosopher,* " that the greatest part of true knowledge consists in the distinct perception of things, in themselves distinct." He, whose name in medicine, bears with it an authority highly deserving our consideration, has also said, " to observe, is to think, and to think, is to reason in medicine."† So long as medical reasoners shall yield themselves to the fascinations of an alluring theory, and plunge headlong into every system, which, though dark and intricate in its inferences, may chance to be engendered by some morbid operation of fancy, or gilded by the tinsel rays of some unsubdued genius: so long will facts be distorted by the colourings of imagination, and principles be rendered subservient to

* Jno. Locke. † Dr. Rush.

the establishment of some captivating creed. But when, emancipated from such intellectual thraldom, the earnest enquirer after nature shall be content to follow in that path which has been illumined by the precepts of a Bacon and a Newton, then shall the fair temple of our science be erected on the firm and immoveable basis of induction; and no worshippers be admitted within her shrine, but such as shall come conscientiously prepared to sacrifice, when required, the dogmas of obsolete doctrines, and the practice derived from crude and uncultivated principles, on her twin altars of *truth* and *experience*.

The author has ventured, as corollaries to the sentiments urged in the course of the preceding essay, to adopt the following conclusions:

First. To esteem the occurrence of inflammatory symptoms as necessary to the production of consumption, is to disregard the obvious inferences drawn from the dissections and animadversions of such modern pathologists, as have made the subject of phthisis the object of their minute investigation, as Bayle, Laennec, &c. Secondly. Those nosologists who, as Sauvage, Vogel, Sagar, Swediaur, have assigned to this disease a place as connected with general derangement of some one or more bodily functions (class cachexiæ), deserve a preference in that respect to those, who, as Cullen, Crichton, Hosack, &c. have referred to it, as a mere local affection, or as principally of an inflammatory character.* Third. The re-

* All science, in a greater or less degree, admits of systematic arrangement. The industry, the research, the keen penetration of philosophers, has enabled them to institute a series of species and genera, based upon peculiarities which are observed to belong, *with constancy*, to all the objects of inanimate creation, and even to the various productions of animated nature in their *healthy condition*. When, however, we attempt to classify diseases, we are immediately opposed by the consideration, that such diseases being in themselves variations of infinite diversity, from the sound and healthy structure of our bodies, must, of necessity, forbid the application of those means to reduce to order, which may, under more favourable circumstances, be so accurately applied. A striking illustration of this truth may be drawn from what occurs in the disordered condition of our intellectual functions. A regular series of ideas arises in our minds, the result of impressions derived from external objects. In a state of complete sanity, these impressions always sustain a determinate relation to the objects which excited them, and are generated in the mind, according to a system or order inseparably connected with the full preservation of its various faculties. Now, whatever this precise order may be, named by metaphysicians the order of *perception*, it must always maintain a strict regularity between the parts which enter into its existence. But he whose mind, by adventitious circumstances, has lost this connexion, feels, acknowledges no such order. Any effort, under such circumstances, to reduce to order what has been thus deprived of the very essentials of order, would,

mote causes of this disease are derived from such atmospheric agencies as have been detailed in the body of the essay. Fourth. The exciting or proximate cause of the disease generally consists in the production of tubercles.

doubtless, terminate in vexation and disappointment. The madman sees a whirlwind in summer's lightest breeze—suspects the latent poison in the cup tendered by the most assiduous friendship—regards the embrace of his friend as the treacherous lure of the assassin—and listens to the plaintive voice of sympathy but as the dire sentence of the judge, or the merciless summons of the executioner. Let it not, however, be inferred from all this that we are utterly opposed to a classification of diseases. But what principle should guide us in such classification, (making allowance for the inherent difficulties of the attempt,) we are indeed at some loss to determine. What we more particularly object to is, the mal-usage made of such systems, both by teachers and pupils. They are much too often, at least impliedly acknowledged, as a collection of symptoms by which disease, in its protean forms, may with sufficient accuracy be detected, to enable the practitioner to inform himself of its *real* character, and institute thereupon a correct *methodus medendi*. Now we contend that, in many instances, systems of nosology, so far from affording to the physician a rationale of the disease, will have a tendency to lead his mind from a just appreciation of its remote seat, and direct his regards rather to the signs or symptoms of the disease, than to the mode or place of its positive existence. Instances in point will present themselves to the recollection of the thinking physician, without rendering it necessary for us to argue more in detail. The fashion of all nosology is rapidly passing away, and, as we acquire greater insight into the nature of disease, we feel less inclined to rely upon its external demonstration, as guides to pilot us to its source, and attack it at its fountain head. We hail the dawn of that period when diseases, although necessarily accompanied with diagnostic signs, those signs shall no longer arrest the attention of the physician, but shall be only regarded as indices to a nearer and more accurate survey of its strong holds and secret lurking places. *Non est philosophia populare artificium, nec ostentationi paratum; non in verbis, sed in rebus est.**

* Seneca.

ART. III. *Five Anomalous Cases that occurred in July and August, 1825, in New York, with observations.* By JOHN BAXTER, M. D.

A. July 21. Ther. 99°. John M'Lochlin, stevadore, has been working for a week stowing turpentine into a vessel. I found him much debilitated, senses wandering, skin hot, pulse full and tense, not accelerated, a severe stricture around the lower part of the chest, with some soreness, not amounting to pain, with no pain in the head or elsewhere; he occasionally fell into stupor; he had taken no cold water nor eaten much lately, but had drank much spirits; his bowels were costive, he was a very stout athletic man, over six feet high, and has not perspired for some time.

V.S. xx oz. gave great relief, followed by tart. antim. gr. ii. ipecac. xv. which on the 22d had not operated as an emetic, but produced catharsis, dark fœtid stools, stricture mostly removed, great debility, skin hot.

A. M. Sulph. magnes. in small doses, drink of lemonade.

P. M. Full perspiration, papular eruption over the skin, which is cool, no restlessness, abundant catharsis—he recovered in a few days and went to work.

B. 22. Edward Baghan, a fellow workman with the above in the same house, was affected in the same way at the same time, but refused medical aid at first; pulse stronger, pain and soreness at precordia very great, so that it could not be touched, debility greater, very athletic, had taken no cold water.

A. M. V. S. xx oz. which produced immediate relief, calomel and jalap āā gr. xii.

P. M. The medicine had not operated, there was great heat and distress, with much soreness at the precordia; while I was there, he got up from his chair, walked across the room and laid down, attempted to rise again, but fell backward, was taken speechless with tremors, convulsive motions; I gave tart. antim. with ipecac. and proposed V. S. which was objected to, some enesis took place, but death occurred in a few minutes, and in half an hour from his first attack, the thermom. 90°. In 12 hours putrefaction ran on so fast, that it rendered it necessary to bury the body before an examination could be made. It was ascertained that several glasses of gin and punch had been given him through the day, contrary to express orders. Coroner's verdict, died from drinking cold water.

C. 25. Mr. K. carman, a temperate man; he had been complaining and debilitated for several days, had rode in the sun, but had not drank cold water or spirits more than usual; the distress at the precordia was very great, difficult respiration, drowsy and obstinate, great debility, thirst, pulse languid, small, and slow, constipated, has had black discharges, tongue white.

A. M. Calomel and jalap āā gr. xii. the operation of which relieved the distressing symptoms, but fever and debility remained, which sulphat. magnesiæ in divided doses removed in 24 hours.

D. 28. Ther. 87°. Peter Gelpin, works under cover in a leather factory, washed skins in the river in the morning, has taken no cold water, drank spirits at dinner time, but ate no dinner, has been complaining of loss of appetite and debility for several days. Found him almost without pulse, greatly distressed about the precordia, said he had no heart, occasional spasms in all his limbs, had taken brandy and tinct. opii, before I saw him; administered an emetic, tart. antim. and ipecac. external application of brandy to the body, feet in hot water, vomiting produced much relief, but spasms continuing to recur with precordial distress, pulse irregular and almost disappearing, I gave ether, when the pulse becoming fuller and stronger, with a subsidence of spasm, I used V. S. to xx oz. which produced immediate relief of all the symptoms; a dose of calomel and jalap was given and rejected, pain continuing under the left ribs, a blister was applied, 4 hours after, distress at the precordia recurring with full pulse, V.S. to xx oz. was ordered with relief, and a dose of ol. ricini.

26. Febrile symptoms occurring, lasted several days, but yielded to cathartics, producing green and fœtid stools, and diaphoretics of antim. nitre, calomel producing salivation—on the 30th convalescent.

E. 30. Ther. 87°. Francis Elerf, a case similar in every respect to A. and B. and in the same house, occupation the same, no cold water had been used, but much spirits, yielded toV. S. xx oz. tart. antim. and ipecac. which produced enesis, and, on recurrence of the symptoms from using ardent liquors, calomel and jalap. He returned to work on the 5th of August.

The above cases are selected as affording the best marked and most prominent symptoms with which a large number of persons were taken, and which swept off a considerable portion of our labouring population. Many of these complaints were attributed to cold water, in which there was no room,

upon inquiry, to suspect the patient's having taken cold water, but it was taken for granted, indeed the above case that terminated fatally, was given in the coroner's verdict as a cold water case. It will not be denied, that much evil and many deaths have occurred from the excessive use of cold water, when debilitated by heat, labour, and ardent spirits, but much more has been attributed to that cause than the cases warranted, and as the cause cannot always be ascertained on the spot, much suffering, and it is to be feared many deaths, must have been caused by a too general treatment of all cases alike, and the interference of anxious friends. Hence, too, various reports of the success of opposite treatment in what was supposed similar cases. I propose to confine my observations at present to those resembling the cases given above. In cases of this description there was no appearance of depression of the vital powers, nothing resembling syncope, neither was there that oppressed state of the brain which would induce us to suspect apoplexy, but although the intellectual powers were confused and sometimes wandering, there was no absolute derangement, or any indication of the brain being more than secondarily affected, there was merely a slight dizziness and stupor. The strength of the disorder seemed to be experienced within the chest, the breathing was but partially affected, and performed without great difficulty, the greatest distress being complained of in the region of the heart, which seemed to labour in performing its duties ; in one case pressure upon it produced great suffering, the irregularity and variableness of the pulse indicated the organs of circulation to be deranged ; what then was the state of morbid action, its cause and consequences, in those organs? To trace these minutely, would transcend the limits of this paper ; a cursory view can only be taken. In speaking of the congestion of any other organ, we may derive an idea of it from the suggestion of Magendie, that "if the veins be compressed or cannot empty themselves, the blood, always arriving by the arteries and finding no place in the veins, accumulates in the tissue of the organ, distends the blood vessels, and augments more or less its volume." This cannot, however, apply to the heart, since compression of the large veins would have a contrary effect upon that organ ; should, however, the reverse occur, and the supply by means of the veins be larger than what can be expelled by the ordinary action of the heart, and that action not augmented, a pressure with distention of the auricles must take place, and consequent embarrassment of the whole organ. To produce this increased supply and pressure, the quantity of blood

already in the veins must be suddenly augmented, or the bulk of that already there be increased, and it will be no difficult matter to show, that both these circumstances must occur with patients in this disorder. In the increased temperature of the atmosphere, heated as we know it was for several days above the natural blood heat, we have sufficient cause for the increased bulk of the venous fluid, but, as we know, that in the experiments of Rumford and others, as well as the practice of some nations, as the Russians, the body can bear a great excess of heat, even to 30° above the natural temperature, so long as the cutaneous secretion is continued to counterbalance and dispose of the superabundant caloric received, this transpiration must cease before the full effect of the increased bulk can be experienced. This is in fact what occurs in these singular cases; the patients asserted that they had not sweated during the day on which they were taken, especially A. B. and E., though they had been at work in the close hold of a vessel. If, then, this transpiration ceases, and fluids are constantly swallowed, as is the case with those among whom this class of cases occur, we have increased quantity as well as bulk of the venous blood, and more especially of that returned through the pulmonary vein, from the lungs, the source and centre of animal heat. This pressure thus pushed to excess, and distending the auricles, the complete closure of the tri-cuspid and mitral valves will be prevented; hence a struggle ensues between the contracting power of the ventricle in its systole, and the pressure of venous blood; and as the expulsive power of the ventricles is thus wasted, less blood is expelled through the arterial system, until the struggle of the ventricular fibre is overcome, that cavity equally distended with the auricle, and death occurs, unless assistance be rendered to the suffering patient in season.

The various symptoms may be thus traced, and the methodus medendi explained; the debility, vertigo, and intellectual confusion originating from the deranged circulation and diminution of arterial supply, and increased venous pressure upon the brain; in the abstraction of blood we easily see, from the above principles, a valuable and instantaneous remedy, which relieves the increasing pressure and distention of the auricles of the heart; in the relaxing power of an emetic, we possess a means of restoring the perspiration, and removal of irritation from the stomach and bowels, which the subsequent use of cathartics assists.

In all the cases that have come within notice, previous constipation had existed for some time. The connexion known

to exist sympathetically between the cutaneous surface, and the mucous membrane of the stomach and bowels, the effects of irritation applied to the latter from its own retained secretions and contents, as well as from foreign articles, in producing a constricted surface of the former, is sufficient to account for the suspended function of that surface.

The effects of ardent spirits and strong drinks in producing this state of the system is great; this is evinced in disordering the functions of the liver, intestines, and skin, and in urging the arterial circulation, thus crowding the venous system, and increasing the pressure at its termination in the auricle. It is well known how large a proportion of these cases were found among that class, who use ardent spirits freely.

I have not presumed to give this disorder a name; disease it cannot be called, as it relates more immediately to functional disorder than to diseased action. Perhaps congestion of the heart would express a more precise idea of the derangement produced, than any other appellation.

The sudden and fatal cases frequently confounded with these, may now demand some notice; compared with the others, they, however, have been few; though at the commencement of the season they may have been more numerous.

In those seized with apoplexy, the insensibility, flushed countenance, total inability to support the body in an erect position, stertor, and laborious breathing, sufficiently mark the difference between the two, but as the treatment does not essentially differ, confounding them will not be productive of evil consequences. The reverse, however, must be the case, with those originating from the immoderate use of cold liquids, but fortunately the symptoms here are so well marked, and the distinction so well defined, that we cannot well mistake. The suddenness of the attack, the flaccid state of the muscular system, the pallid countenance, the cold perspiration and extremities, the small, hesitating, interrupted pulse, and the torpor and insensibility; all these indicate a sufficiently different and opposite state of the system, from that which I have considered as a congestion of the heart, or from apoplexy, and consequently a different mode of treatment. These cases are produced by the sudden introduction of cold fluids into the system, when exhausted by labour, heat, or other causes by which the vital energy is diminished, and the body is fast parting with its caloric, perhaps the temperature already reduced below the natural standard, instead, as it is frequently even now believed by some physicians, of its being heated to excess. That cold drinks

and the cold bath may be, and is safest taken when the heat of the body is above the natural standard, was ably taught and defended by the noted Currie, and since it has been so generally admitted by medical men, it is astonishing that the contrary opinion should so generally prevail. The continual use of iced drinks, soda water, and creams, by a large portion of our population in the heat of summer, with seldom any evil consequences, proves this. "As it is safe," says Currie, "to drink cold water, in proportion as the heat from exercise is great and steady, so also it is safe, according to this ratio, to pour it on the surface, or to immerse the body in the cold bath."*

In the treatment of this disorder, Doctor Rush has given his sanction to the use of the tinct. opii, and undoubtedly this, with other stimuli, while any excitability remains in the stomach, will be of benefit in restoring the circulation, and calling back the vital powers; but the sudden abstraction of caloric too frequently destroying all excitability in the coats of the stomach, all stimuli may fail, where the simple use of water, heated to the natural standard, first administered, may restore that organ to a state fit to be acted upon by the excitants administered, and thus a reaction produced. As insensibility so frequently prevails, and the external use of heat is not often practicable, the injection of warm, or even hot water, by means of the catheter and syringe, as recommended by Dr. Physick, in cases of poison, and now claimed as a discovery by Mr. Jukes, may prove a dernier resort, of the greatest utility to the patient. The addition of the warm bath or external frictions with spirit, taking the first opportunity to introduce laudanum and ether into the stomach, will generally complete the cure.

The supposition that Dr. Rush alluded to that class of symptoms, detailed in the first part of this paper, when he advised laudanum, is at variance with his known accuracy of observation, as well as the principles so long and so successfully taught by him.

* The danger arising, not from the difference between the temperatures of the body and the water, but from the debilitated state of the system, produced by great exertion under a great heat, producing profuse perspiration, lowering the natural temperature, diminishing the vital energy, and predisposing the body to be deranged by a sudden detraction of the re-remaining portion of that natural stimulus. It is remarkable that all these cases have been adults, so far as I can learn; and yet nothing is more common than to see boys, in the midst of their play, stop at pumps, and drink the water from the spout; but they continue their sports, and, from the vital energy of the system being superabundant in them, they seldom suffer any ill effects.

Art. IV. *Case of Chorea.* By Francis P. Doucet, of the City of New York.

The twenty-ninth and thirtieth numbers of the Recorder contain two cases of chorea or rotatio, cured by remedies, no doubt well adapted to fulfil indications of common occurrence in this disease. There is not one in which the causes are more various, or the symptoms more different; consequently there is none in which judgment or chance falls more easily upon some therapeutic means to save the patient. Sydenham recommends bleeding and purging alternately; Strack and Hamilton only admit drastic purgatives as useful; Marquart depends only upon evacuants, narcotics, and cordials. Electricity was used by Gordon, Underwood, De Haen, and Fothergill. Some have vaunted highly, as a specific against this affection, the mineral quintessence of the Count de la Garaye. M. Bouteille has used with benefit, valerian; M. Baker, the flowers of cardamine; M. de la Roche the sublimed flowers of zinc; M. Waters, of assafœtida; and M. Poissanier of camphor in injection. "I conceive," says Pinel, "that in this disease, the same means cannot always be employed; it is against the cause of the disease, that it is essential to direct them; it is for this reason the warm baths have been useful in some cases; while bark and ferruginous medicines have been employed in others with success." "I have seen," says Cullen, "this disease continue several months, in spite of all kinds of remedies, but I have observed also, that it yielded easily to tonics, such as Peruvian bark, and ferruginous medicines."

I have seen, in the course of my practice, several cases of this disease.

A. H. of Sandwich, Upper Canada, æt. 14, was attacked with chorea early in December, 1820, and, although he was attended by a skilful physician, Dr. Joseph Hamilton, the symptoms became daily more distressing, until the 20th January, 1821, at which time I was requested to see him in consultation. I found him labouring under the most severe symptoms. The convulsive motions of the head and extremities, and the distortion of the countenance, were beyond description. He was in such a degree of debility and emaciation, as to give him the appearance of a living skeleton, notwithstanding which, the movements were so violent, that it required the constant attendance of two persons to keep him on his couch.

The attending physician informed me, that since the commencement of the attack, he had not slept an hour at a time; that the most drastic purgatives had been, of necessity, used to procure alvine evacuations; that the perspiration had been imperceptible, if not wholly interrupted; that it had been necessary to excite the secretions of urine by diuretic medicines; and that the tonics administered had produced no effect whatever.

The cold bath was under trial, when I was called in, but it seemed, if possible, to aggravate the complaint. I advised the use of the warm bath in preference; opium had been given in all its forms, and in large doses, without any advantage being derived from it; however, I desired that the warm bath, purgatives, and opium, should be continued three days longer; but the result was not more happy; when I recommended the use of port wine in large quantities: ten minutes after the first tumbler, the patient fell into a quiet sleep, which lasted upwards of an hour, when the dose was repeated, with a similar effect. In short, one dozen of good port wine, with the assistance of purgatives alone, completely cured the patient, and in fifteen days, he rode out in an open carriage, as free from chorea as he ever was.

Art. V. *A condensed Abstract of the principal Facts and Opinions on Fever.*

The Dysenteric Variety.

Dysentery, like other epidemics, from its wide-spread influence in the destruction of fleets and armies, and its occurrence in all climates and latitudes, has claimed much attention; and upon no subject has there been a greater variety of opinion, both with regard to its treatment and pathology. By one class of men, it has been considered as inflammatory; by another as owing to bile; a third, as a fever turned in upon the bowels. In the following essay, regarding all epidemic forms of disease as the result of various combinations of physical agents acting in different seasons with different degrees of power, exhibiting often, in apparently similar weather, a great diversity of character, and requiring, even in the course of their rise, progress, and decline, a different treatment in the same year, we propose to give the symptoms of this disease, as those external evidences by which

the character of a disease is in part known, and also that treatment which is found to be most successful in many of the combinations of symptoms as yet observed.

In giving a history of this disease, the authorities will be quoted in the margin, with occasional comments on the application of the practice to the latitudes of the United States, and those of the first order only will be given.

Causes.—Inconstant, humid, cloudy, and rainy weather, alternated by a stifling heat when the sun shines, followed suddenly by cold nights, mornings, and evenings, promote, then check the perspiration, and produce the disease. It appears sometimes after a sudden heat which had been preceded by cold.* Sudden cold acting on the body, after being violently heated; drinking great quantities of cold water when in a profuse perspiration, often produce it in persons living in the country.† Steady and continued cool weather arrests the dysentery, yet it has sometimes been increased by long continued cold; this, however, is an exception to a very general rule. It appears on the shores of the sea near woody and uncultivated countries, where the dews are heavy; in armies from lying on the cold ground after hot and dry weather,‡ even though the camp should be dry and airy: wet clothes and floorings, the chill and damp air of the night, are its exciting, and the miasmata from the surrounding country its primary causes. The dysentery has also originated from the air of dissecting-rooms—from smelling a bottle, in which there was putrid blood, and from injecting putrid vegetable and animal substances into the blood vessels. The perspiration, the breath, and the stools are dangerous, and in the above order. The acrid discharges of an abscess of the liver; acids taken by the mouth; the amputation of a limb; ulcers and cancers in the bowels, also produce adischarge from the bowels, and the dysentery. (Zimm. p. 157.)

Prevention.—Every thing which produces fever and inflammation must be avoided. Those who are in health during the prevalence of a dysentery, should eat little, drink still less, and take ripe fruit, as grapes, apples, &c. keep their bowels open, avoid much meat, and take that which is most digestible, as mutton, beef, fowls; avoid exposure to the night air, after the evening meal, and if exposed, the clothing should be warm: in the day it may be light and cool to prevent exhaustion from excesssive heat, in the chilling evenings it should be always

* Zimmerman on Dys. 1771. p. 20–1. † Ibid. ‡ Ibid. p. 25.

changed; the perspiration should be regular throughout the twenty-four hours; sleeping on floors, benches at the doors, so common in the country, should be avoided;* cold water must not be applied to the surface of the body, nor drunk when warm.

The stools of the sick must be removed immediately, their rooms aired often and completely, and a window kept constantly open: no person should sleep in the same bed with those who are ill of this disease, or use the same close stool; the linen of the sick should be often changed, the dead soon removed, and interred in deep graves.†

Vomits may be given occasionally to those who are much about the sick, when they feel the slightest indisposition; as a bitter taste in the mouth, restless nights, pain in the belly, a feverish state of the system; gentle purges, as cream of tartar water, chewing the root of rhubarb: to persons engaged in vexatious pursuits, as physicians, and friends anxious for their relations, purgatives will be invaluable. Fear should be repressed, and as the above plan is very effectual, it should be confidently recommended as the best means of fortifying both the mind and body: grief has also the most pernicious effects, under its influence the well become sick, and the sick die.‡

Consequences of Dysentery.—Inflammation, suppuration, ulceration, gangrene, particularly in the rectum and large intestines; pustular excrescences filled with fœtid matter, which is discharged during life; little solid aphthæ resembling small pox, with black spots on the top: inflammation is found even in the stomach.§ Schirrous tubercles, straightening of the cavity of the colon in several places,‖ abscesses in the cellular membrane contiguous to the rectum and colon, adhesions of the convolutions of the lower intestines to each other, the omentum wasted and black, with purulent water in the abdomen. It adheres in others to the intestines and peritoneum; in some cases all the visera are adherent to each other, and to the liver, the bladder, &c. the gall bladder is filled with bile, and the spleen is more or less dissolved,¶ the mesenteric glands are swelled, relaxed,** filled with pus, and gangrenous. The signs of inflammation are always more violent in foreigners visiting tropical latitudes than in natives.

* Zimmerman, Lond. 1771. p. 47. † Ibid. p. 48.

‡ Zimmerman, C. III. p. 49. Lond. 1771.

§ Zimmerman on Dys. p. 33–34. ‖ Cleghorn, Ph. ed. 1809. p. 144.

¶ Ibid. p. 144-5. Review of Bampfield on Tropical Dysentery, quoted in Edinburgh Medical and Surgical Journal, p. 443, 1821.

** Zimmerman, p. 35.

Contagion.—The typhus form alone is contagious.‖ In Holland dysenteries become epidemic and contagious after hot and close summers ;§ also in hospitals ; neither the remittent nor the inflammatory variety are communicable in this manner.¶

Inflammatory Dysentery.—The inflammatory variety of the dysentery occurs often among persons who live freely, though it is, also, the result of the usual causes of this malady.

" The form of flux, now under consideration, commences in general with much of the appearance of a common diarrhœa ; frequent and unseasonable calls to stool, with an irresistible inclination to strain over it. The evacuations are generally copious, of a fluid consistence, without any peculiar fœtor; sometimes streaked with blood, and at other times a small quantity of blood is voided in a separate form, unmixed with the fæcal matter. The pulse, in this stage of the disease, is seldom altered ; the heat of the skin not perceptibly increased, and the tongue is frequently but little changed in its appearance. There is always a great prostration of strength and depression of spirits ; the former symptom being always strongly dwelt upon by the patient ; the appetite is indifferent, and the thirst urgent. To these symptoms succeed a fixed pain in the hypogastrium, more or less acute ; the pain sometimes extending to, and peculiarly urgent in one or both the iliac regions ; and sometimes to be traced along the whole course of the colon, with a sense of fulness, tension, and tenderness upon pressure ; and on applying the hand to the surface of the abdomen, a preternatural degree of heat is frequently perceptible in the integuments ; the evacuations now become more frequent, and less copious ; they consist chiefly of blood and mucus, or are composed of a peculiar bloody serum, which has very aptly been compared to water in which beef has been washed or macerated. A suppression of urine and distressing tenesmus now become urgent symptoms ; the indifference to solid food increases, while there is an uncontrollable desire for liquids, particularly cold water, which the patient prefers to any drink that may be offered to him, and from which he expresses his inability to refrain, although prepossessed with the idea of its being injurious. The tongue is now generally white,

‖ Tissot, Degner, Pringle, Grant, Rouppe, Grainger, and Zimmerman support it. See Harty, c. IV.

§ Pringle quoted by Harty, p. 82.

¶ Ibid. p. 84. also, Degner, Mosely, Hunter, Willan, Wade, Milne support this idea ; see Harty, p. 117.

and furred; sometimes, however, exhibiting a florid, smooth, and glassy appearance, with a tremulous motion when thrust out; the skin is either parching hot, so as to render it even painful to retain the hand in contact with it, or covered with profuse perspiration, insomuch that it may often be observed standing in large drops on the surface; the pulse is still frequently but little affected; sometimes, however, it assumes a febrile quickness, without any other remarkable feature; at other times it will be found without any increase of velocity, but full, and bounding with a peculiar thrilling sensation under the fingers. This state of the pulse, whenever it takes place, always denotes extreme danger, and shews that the disease is rapidly hurrying on to the final stage, in which the lassitude and dejection, so conspicuous throughout its course, are now converted into the utmost degree of anxiety, depression, and fear of death. The patient generally shews an inclination to dwell upon symptoms, which to a spectator would appear of minor importance. He evinces the greatest reluctance to part with his medical attendant, though fully sensible how unavailing the efforts of medicine are likely to prove. The discharges by stool, which are frequently involuntary, are now accompanied with the most intolerable fœtor; they are frequently mixed with shreds of membrane, and quantities of purulent matter; a protrusion of the gut, forming a complete procidentia ani often takes place; and cases are not wanting, where a portion of the inner coat of the intestines, amounting to some inches, has been thrown off in a state of mortification."*

"When things comes to this pass, death soon closes the scene. The periods occupied in passing through the different stages are very various, the disease often proving fatal within a week—and at other times being protracted to two or three weeks, but seldom longer, where the inflammation is solely confined to the colon."†

Sometimes it attacks with symptoms of a more general character, affecting the whole system; slight chills, general lassitude and uneasiness, with some slight griping, restlessness at night, great pain in the bowels, so as to render it impossible to stand erect; the stools become frequent, blood and frothy mucus pass, with tenderness and great bearing down, thirst, head-ache, red face, tongue white, dry, furred and yellow at the back part, pulse full and rather quick, with a hot dry skin.‡

* Ballingall on the Dysentery, p. 49.
† Johnson on Hot Climates, p. 230. Lond. 1821.
‡ See Johnson's Journal, July, 1825, p. 270—1.

Prognosis in Inflammatory Dysentery.—Some appetite, large and few stools in the beginning of the disease are favourable; vomiting in the beginning of this species in the slightest degree is bad; want of appetite, a disgust to food, hiccup when it proceeds from worms, wind, or indigestion, are in the beginning of no consequence; but if the disease has continued for some time, it is an evidence of approaching gangrene: the more frequent and the smaller the stools are, and the more violent the tenesmus at first, the case is in proportion dangerous; large stools when the disease is of some standing, are a bad omen, also undigested food passing with the stools.*

Treatment of the inflammatory variety.—The difficulty of determining the character of the disease previous to the use of remedies, will in part be removed by animadverting to the effects of climate, season, age, modes of life, on its type. If the preceding winter has been cold and bracing; if the disease appear early in the spring;‡ if the patient be young, accustomed to full diet, a cold climate, be of a plethoric habit, and still retain his strength, it is probable that the disease is inflammatory, and will require the use of active depleting remedies; but still actual trial can alone determine it with certainty. The long duration of the chill indicates an inflammatory diathesis; also the consequent high fever, the pulse full, tense and strong, and the pains in the head, bowels, or loins, acute, fixed, and severe, with a tense belly.§ If, after taking medicine to excite a diaphoresis, heat and fever should arise, V. S. becomes expedient.‖ Cases of inflammatory dysentery, however, are rare, and more likely to occur in the winter and spring in these latitudes; when they do appear, the following treatment will be found useful:

V. S. to fainting, also locally to the belly, to be repeated as long as there is pain on rising in bed, with a full or a small and corded pulse, and the strength continues unabated. These, with injections of warm mucilaginous articles, given in small quantities at a time, that they may not be discharged, and the free use of mucilage of gum arabic, gum tragacanth, barley water, almond emulsion, by the mouth, will be serviceable. Fomentations of chamomile flowers boiled in water to the belly, after anointing it with sweet oil. The warm bath, as soon as the fever is abated by bleeding, is also useful; it produces large and copious evacuations, and gives immediate

* Zimmerman, p. 171–2. ‡ Pringle, quoted by Harty, p. 160.
§ Tissot, quoted by Harty, p. 157. ‖ Mosely. See Harty, p. 157.

ease. It is particularly beneficial where the griping and tenesmus is severe. Blane recommends stupes to the belly, with laudanum to the anus, as particularly serviceable in allaying the tenesmus; the warm bath restores the perspiration, and was found useful by Richter in Germany, where the disease so often arises from exposure to cold, particularly from the application of the bare feet to stone pavements.*

Of the local applications, dry cupping is highly praised; swathing the belly with a flannel roller, which operates by keeping up a perspiration, is also valuable; it invigorates and allays the griping after copious bleeding.† It is recommended in India since the year 1801, when it was first used by Dr. Dewar in Egypt.

Emetics and purges, in this variety, at the time when the inflammation runs high, are dangerous, because they increase it. Rest is as necessary for the bowels, when inflamed, as for any other part of the body. In this variety, the sudorific practice of Mosely, which succeeded well in England, will be proper: for this purpose, small doses of emetic medicine, tartrite of antimony or ipecacuanha, to excite perspiration, after sufficient bleeding, should be given.‡ If the inflammatory diathesis run high, the Italian mode of treating rheumatism of giving minute doses of tartar emetic so as to excite nausea without vomiting, may be tried; and if the stomach will bear it, it may be given in the dose of the 1-6th of a gr. every half or three quarters of an hour through the day, always repeating the bleeding when the pain is acute, violent, and fixed.

Senac gave large quantities of diluent drinks with small portions of tartar emetic, with excellent effect. I have tried this practice with the most decided advantage. Pringle, in the Low Countries, which are in a high latitude, succeeded well with ipecacuanha given in small doses. Akenside, in England, was equally successful with the same remedy and blood-letting; and in the spring and winter of this country, when dysentery appears, this mode will be found to be preferable to that by purgatives, if there be much inflammation. The ipecacuanha and tartar emetic, it has been supposed by Friend and Sir George Baker, owe their virtues to their diaphoretic effects. Opiates, bitters, astringents, spices, wine, alcohol, all stimulating, acrid, and heating medicines, must be avoided.§

* Harty on Dysentery, p. 184–5–6.
† Ibid. p. 189, quoting Dewar on the Dysentery.
‡ See Harty on Dysentery, p. 178, et seq.
§ Zimmerman, p. 181–2.

If, however, during the prevalence of an inflammatory dysentery, it should appear in persons who are of a phlegmatic and dropsical habit, or debilitated from any previous cause, bleeding will be improper. Where the blood shows no signs of inflammation, and there is no great fever nor quickness of the pulse, V. S. is useless, and may be hurtful.* Then sudorifics and gentle saline laxatives will be proper.

As soon, however, as the inflammatory diathesis is completely subdued, it is necessary to have recourse to purgatives to remove the irritating accumulations in the bowels; tamarinds, cream of tartar, the sulphates, either of magnesia, potash, soda, or castor oil, with the view of producing this effect in the most speedy and agreeable manner, should be given; colocynth, senna, aloes, gamboge, scammony, should be avoided; and when the inflammation is subdued, an opiate may be taken at bed time, in union with ipecacuanha and nitre, in the form of Dover's powder, premising a large blister over the belly to confirm the effect of the bleeding, and to remove the remains or prevent a return of inflammation. As this form often appears in athletic subjects, accustomed to hard labour, and the excessive use of ardent liquors, the quantity of opium may, in these cases, be increased. On the next day the purgatives may be repeated, in union with tartar emetic in small doses, watching the inflammation, and bleeding again if necessary. The patient, by this plan, instead of being debilitated, will, in general, acquire strength. If his strength, however, owing to previous intemperance, should suddenly decline by the use of this vigorous plan, it will be necessary to have recourse to the sulphate of quinine, with the infusion of rhubarb sufficient to keep the bowels freely open, blisters to the ancles, and the other remedies for the typhous variety; always recollecting that the above treatment is only adapted to the most violent inflammatory form, and that the purges, bleeding, and the other measures, must be regulated according to the strength of the system. The largeness and freedom of the stools, the removal of the tenesmus, and the general ease of the patient, will determine the efficacy of the remedies, and the necessity of their continuance.

Sometimes the purgatives, however, excite great pain and straining, so that it is dangerous to repeat them: opium may then be advised to mitigate it. It will then generally be found, that as long as the symptoms are inflammatory, the purgatives had better be omitted; of this the pain they produce will be

* Zimmerman, p. 184.

sufficient proof; then V. S. should be resorted to; and as soon as it is subdued, the purgatives will produce less straining, and the opium will be more safe. The neutral salts, or castor oil, are most proper for this form; and rhubarb is best suited to the last stage, when a gentle tonic and laxative medicine is required, and the patient is in danger of sinking under the use of the remedies.*

Calomel, given in doses of a scruple twice a day,† united with the above medicines, after the free use of bleeding, where the case is alarming, may avert all danger by gently touching the mouth; it may be combined with the ipecacuanha in small doses, or with jalap, when purges are admissible; and if the disease should be unmanageable by the common modes, it will be found to assist greatly in the cure. In inflammatory dysentery, occurring in the winter and in cold climates, mercury is not generally so necessary as in the remittent form of warm seasons and latitudes. If there is danger from the irritation of purges, the blue pill may be given internally till the inflammation be subdued, or the mercurial ointment may be applied to the skin till the mouth becomes sore; the warm bath, the application of bandages to the belly, and of spirits of turpentine, will assist, but only after the violence of the inflammation has subsided.

Symptoms of the remittent variety of Dysentery.—This form of the disease attacks like an ordinary remittent, with nausea, bitter taste in the mouth, chills, headach, &c. followed by vomiting of bile, fever, delirium, pain in the bowels, with frequent discharges of bloody mucus, colic, bearing down, and griping pains through the belly; the stools are often small in quantity, consisting either entirely of mucus, streaked with blood, of long strings of the same substance, or of round compacted masses called scybala; sometimes the patients are costive, with violent tormina; in others, the pains in the belly are fixed, or they appear about the false ribs, interrupting respiration, as in pleurisy, or in the lower parts of the belly, attended with frequent tenesmus and discharges of bloody mucus.‡

Sometimes the disease commences with a simple looseness, without fever, with a natural tongue, and with a common pulse,§ which ends in straining with bloody stools; the evacuations are copious, without fœtor, and streaked slightly with blood; they increase in frequency, till at last fever, with a

* Harty, p. 176. † Johnson on Tropical Climates, p, 220. 1821.
‡ Cleghorn, Phil. edit. 1809, p. 143–4.
§ Hillary, quoted by Harty, p. 116. London, 1806.

hot and dry skin, appears; the discharges become more copious, ichorous and offensive, or are composed of reddish serum, as the disease advances.* Pure blood is sometimes discharged, and in considerable quantities; the strength decays; aphthæ appear in the mouth, and the patient, worn out by frequent evacuations, gradually dies: if he survive, the inflammation sometimes disappears, leaving only a bearing down and straining on going to stool: The evacuations in this variety sometimes amount to 12, 50, and even 200, in 24 hours; they are brown, yellow, white, green, and black; the pulse is corded, and the blood buffy: At other times, the disease is mild, with slight fever, and there is no pain except at the time of the evacuations, which are small.†

Sometimes the disease returns irregularly, succeeded by heats and short violent fevers, with cold sweats; at first, they continue all night, with fruitless attempts to vomit, succeeded by excruciating pains in the belly and frequent stools; at others a lethargy, with general spasm of the muscles, occurs.‡

Prognosis in Remittent Dysentery.—A universal chill of different durations, delirium, violent headach, fever scarcely observable, with a very weak pulse, are signs of violent cases; the colic continuing for a long time, lethargy and convulsions, particularly in children, show the case almost desperate; stools of grumous blood are suspicious; oppression of the chest is also a bad sign; an aphthous rash on the tongue, over the abdomen, over the whole body, occurs frequently in violent, but not dangerous, cases; the tormina becoming daily more intolerable, hiccough, swelling of the belly, and the ceasing of the colicky pain, are mortal signs; stools black, of a cadaverous smell, hiccup, cold sweats, delirium, betoken gangrene and death.§ Slight fever in the beginning, vomiting of bile, and strangury, the stools yellow, and not offensive for several days, in number eight or ten in a day; a universal languor, with stools not very frequent, or attended with slight griping, and little blood, white and undigested food mixed with them, are favourable signs.¶

On the treatment of the remittent form of Dysentery.—Regarding the efforts of nature as blind, irregular, and without design, in the course of almost all diseases, we must depend on the effects of remedies alone. Their abuse by irregular practitioners and old women, the great enemies of the sick,

* Cleghorn, Phil. edit. 1809, p. 143-4. † Zimmerman. ‡ Ib.
§ Zimmerman, 1771, l. 1. ¶ Ibid.

must be opposed; for in no disease have the ravages of empiricism extended more widely than in the dysentery.

The exact character of the prevailing disease must, if possible, be first ascertained. If inflammatory, the treatment should incline to that pursued in the species formerly described; if moderate, purgatives must be our principal means; when typhous, the stimulating plan must be used.

The remittent and intermittent dysentery sometimes so entirely partakes of the character of the fevers of that name, that its treatment must be directed by the rules already laid down in the last number. When it is intermittent, the dysentery only appears in the paroxysms; and as soon as the intermission takes place, the bark or sulphate of quinine must be administered, with the precaution of premising bleeding, &c. according to the character of the disease.

In the bilious fever of 1780, when dysenteric symptoms appeared, lenient purges, followed by opiates, were successful.* If they failed, the bark given in the intermissions of the pain, with blisters to the wrists, cured the patient. When dysentery partakes of the remittent character, and is of a moderate type, the skin should be attended to in addition to the above plan; accordingly, after the exhibition of an emetic and a purgative, the use of antimonials, in the dose of one-sixth gr. of tartrite of antimony, or four or five grains of James's powder; given every two or three hours, till a perspiration takes place, should be tried; it should be kept up by rice or barley water, till the stools assume a proper consistence, and natural colour; as soon as this is effected, and the fever remit, the bark may be given with advantage: In these cases mercury is unnecessary: If, however, the excitement of the perspiration be difficult, warm fomentations to the belly, wrapping the lower extremities in a blanket, wrung out of hot water, will be found to produce the effect: The vapour bath also sometimes succeeds in inducing a sweat.† Another mode of treatment, which is often valuable, is to give, in recent and mild cases, an emetic of ipecacuanha or sulphate of zinc in the evening, after which from four to ten grs. of the Dover's powder, with from two to six grs. of calomel in molasses, followed next day by small doses of sulphate of magnesia to facilitate the operation of the calomel.‡ These plans, however, apply only to the mildest cases of this form. When the disease is inflammatory, with great acute

* Rush, vol. ii. p. 398. 1809.

† Chisholm on Tropical Climates, quoted by Johnson, p. 113 of Journal for 1822-3.

‡ Ibid.

and fixed pain on pressing the belly, or on rising up in bed, the blood buffy, with great tormina, a full or small corded tense pulse, with bloody and frequent evacuations, the patient must be bled, both locally and generally, till the pains abate and the pulse become natural; calomel, in scruple doses thrice a day, may be given; if it be found irritating to the bowels, the blue pill, in doses of seven or eight grs. five or six times a day, with mercurial frictions every three or four hours, may be tried; previous bleeding, to the extent to subdue the inflammation, renders the effect of the mercury more certain, and prevents the formation of abscesses.

The experience of tropical climates often accurately applies to the epidemic dysenteries of our excessively hot summers, and of the south, and is of inestimable value. V. S., calomel in large doses, the bleeding pursued to an extent to favour the immediate effect, and to avoid, by lowering the excitement, the irritation produced by the calomel, constitutes the outlines of this plan, occasionally interposing purgatives, as castor oil, the neutral salts, to keep the bowels free; the effect is certain; the disease yields. When the case, however, has been of some standing, it often takes an unfortunate turn; it is little affected by mercury; the mouth becomes hot and dry; no ptyalism takes place; the fever becomes slow and insidious; the ulcers and the chronic inflammation increase, and the patient often falls a victim to it.* With the above plan, early used, even under unfavourable circumstances, the success is great.

The following mode will be found to suit most generally the remittent dysenteries of this country: The most perfect cleanliness must be observed; the room should be well ventilated, taking care that the wind do not blow over the patient:

At first the disease is best treated by emetics, which are particularly indicated by nausea, weight at the stomach, and aversion to food, and a bilious tongue, with a bitter taste in the mouth. Emetics are generally attended with good effects when the stools are bloody, and may be used even in the advanced stages; they should, however, be restricted to cases where the re-action is not violent, and they should be mild, and employed more particularly in the onset of the disease: In young children they are equally applicable.†

They are advised by Pringle in divided doses—five grs. of ipecacuanha three or four times a day, so as to purge at the

* See Marshall—Review in Johnson's Journal, 1822-3.

† Zimmerman on Dysentery, p. 38.

same time. This plan is, however, objectionable on account of the insupportable sickness produced by it; united with a purgative, however, it does not produce this effect; sometimes 30 or 40 grs. of ipecac. on the first accession, may be given to a grown person in a table spoonful of warm water or weak chamomile tea, drinking freely of either as soon as the vomiting takes place. By continuing it for several operations the sickness is removed, and often, when given as late as the third day, it has cured the disease at once. The addition of a grain of tartar emetic to twenty grs. ipecacuanha, or to an infusion of the latter medicine in half a pint of water sweetened with sugar, and taken in the dose of a wine-glass full every half hour, till free vomiting is produced, will be found to be very effectual. Tissot and Russell prefer the tartar emetic; in delicate persons, the ipecacuanha is best.

In some particular cases, strong doses of tartar emetic and ipecacuanha are necessary, when large quantities of mucus are present in the bowels, which prevents their effect.* They do not, in these cases, produce vomiting, but operate by stool: after which, the oppression at the stomach, and pains in the belly, vanish directly. Where there is no inflammation, the vomit may be repeated: and when there is much bile, they always relieve, and should be followed by purgatives, either on the same or the next day; the dose of which must be regulated by the quantity of evacuation, and by the relief which follows the operation; they may even be repeated every day, large evacuations being produced each time, with great relief from nausea and debility.† In general, however, extremely violent vomiting and drastic purgatives must be avoided, in this form of dysentery, as they produce inflammation and ulceration in the bowels, or an incurable tenesmus, and prolonged diarrhœa: aloes, scammony, and the resinous purges, more particularly, have this quality.‡ After giving the emetic in the morning, purges are necessary, two ounces of barley, an ounce of cream of tartar, boiled in two pints and a half of water, till the barley bursts, strained and drank warm at short intervals, till the next morning, has a good effect: Sulphates of potash, of soda, of magnesia, and, above all, castor oil will be found to be valuable; also, purges of tamarinds, three ounces boiled in half a pint of warm water, for two minutes, and strained, as a dose for adults, given the following day: to children, two

* Zimmerman, p. 191. † Ibid. p. 195–6. ‡ Ibid. p. 232.

ounces; to infants, one ounce: the stools are thus made more copious, their number diminished, and the tormina disappear, or are greatly lessened; or the barley water, prepared as above, may be given in the night, and the tamarind decoction next day; if the disease be sufficiently overcome, it may be postponed till the fourth day, the barley water being continued:* or a drachm of cream of tartar, and the same quantity of rhubarb, may be given, immediately after the emetic, and repeated on the morning and evening of the second day, and the morning of the third; or this dose may be divided into six, and taken through the day; the barley water may also be given in the same manner, diminishing the doses according to the age. The rhubarb, however, is best suited to slight indispositions, as it sometimes produces tormina; the tamarinds and cream of tartar, on the contrary, do not; they produce free stools, and render the patient more strong, lessen pain, and cure even very bad cases, in three or four days: besides, the rhubarb is often protracted in its operation. After the emetic, sometimes the stools grow copious, pains great, and the languor of the whole system considerable; then the purgative again restores the patient, for, as soon as it operates, he feels better: the fever decreases, with the local symptoms. As a general rule, it may be stated, that rhubarb† is best suited to the conclusion of the disease; salts, as the sulphate of potash, manna, or tamarinds, are preferable in the first stage.

Half a drachm of ipecacuanha, given during the cold fit, often arrests it, lessens the colic, and the number of stools; and the cream of tartar given with the barley water or the tamarinds, as above, completes the cure.†

Sometimes purgatives alone will not answer; when followed by laudanum they succeed very well. This medicine, however, must be well watched, as it sometimes produces violent pains in the bowels, anxious dreams, and pains in the joints: the repetition of the tamarinds, however, entirely relieves them. After the disease has continued for some time, it is necessary to be careful in giving excessive doses of purgative medicines, as they debilitate; eight drops of the liquid laudanum of Sydenham may be taken by a grown person at bed-time, and repeated in the night, to allay

* Zimmerman on Dysentery, Lond. 1771, p. 50–1–2.
† Ibid. p. 53–4–5–6. ‡ Ibid.

excessive evacuations, and procure sleep: by giving it cautiously in this manner, wandering pains, delirium, &c. are avoided; it also diminishes the number of stools: it must, however, be used with great caution, as it often prolongs the disease. Purgatives of cream of tartar, or tamarinds, taken actively at the same time, do away its pernicious effects, and abate the tormina and uneasiness. Given in the form of Dover's powder, its operation is often salutary. The laudanum of Sydenham is thus prepared:

℞ Opii ʒij.
Vin. Hispan. ℔j.
Croc. sativ. ʒi.
Cinnam. et Caryophyll. pulv. āā ʒi.

Infuse them together in a gentle heat, for two or three days, and strain for use. If the opium does not give relief, evacuations must always be resumed, for it must be deferred till the bowels have been sufficiently evacuated, inflammation subsided, and then be given only in small doses, and at night.* Next to opium, Zimmerman considers chamomile tea, given copiously, combined with fomentations to the belly, as the best for easing the pains. Evacuations, however, are our principal reliance. The tenesmus, also, which is a symptom apparently confined to the rectum, is relieved principally by them. Injections of laudanum, of gum arabic, are of no use; the tamarinds, cream of tartar, or rhubarb, relieve it directly, and even in cases which have been of some standing: the appetite also improves under this treatment; and stomachics are unnecessary, either as assistants or preventives. Rhubarb, however, which is tonic, is of great use towards the close of the disease. Ipecacuanha, castor oil, cream of tartar, and the other neutral salts, with barley water and tamarinds, are the principal remedies; laudanum, chamomile tea, and almond emulsion, are to be regarded only as assistants.† The patient must be kept warm, by clothing him with flannel; also by a flannel bandage rolled round the belly, moderately tight, from the armpits to the groin, and then again from the groin to the armpits. It supports the bowels, excludes the cold, and prevents griping. Pins must be used, to prevent it from slipping, and where there is pain, it must be made to press less violently on the belly.

Dr. Duncan treated the dysentery by a general method, which, in its principles, resembles the above plan. Take

* Zimmerman, p. 206. quoting Pringle, Eller, Monro, Young, &c.
† Ibid.

four ounces of the following julep every half hour, (till vomiting and purging is produced :)

℞ Tartrit. antimon. gr. iii.
Mann. calab. ℥ii.

Dissolve them in a pint of barley water. On the next day, the patient was purged again with a mixture of manna, tamarinds, and soluble tartar: manna dissolved in emulsion of bitter almonds was sufficient: a clyster of chicken soup, linseed tea, or some mucilage was ordered, if there was pain and bearing down on going to stool. After the disease had run on for several days, laudanum became necessary—thirty drops in a solution of the extract of Campeachy wood. Boiled rice, sago, panada, formed the diet; but oil, butter, fat, chicken water, were prohibited in the beginning of the disease. Rice gruel, barley water, &c. were their common drinks.*

If these means do not relieve, a blister to the abdomen is sometimes effectual. Tenesmus is generally cured by a free use of saline purgatives, when it proceeds from hardened feces: as soon as a copious discharge is produced, it ceases. A plentiful use of diluents, at the same time, is proper, combined with fomentations to the belly: the electuary of senna, and cream of tartar, produce watery stools, which answer the same end: injections of laudanum in starch, are, after their use, particularly valuable; if there should be fever, blood must be let, and a blister applied to the belly.† A bed pan is indispensable as the slightest exposure to cold aggravates the disease, and the room should be kept comfortable in the morning and evening, by having a few coals in the chimney.

Dr. Marklin, of Ravensburg, gave with success 3 or 4 gr. of the root of marsh mallows, with six grains of the vitrum antimonii ceratum, and freely of barley gruel; the excessive sickness and weakness produced by giving it alone, is thus avoided; and, after a repetition of the medicine for three days, the first dose increased the dysentery, the second diminished, and the third caused it to disappear. He bled once as preparatory to the use of this medicine; after the disease had continued for some time, however, more than three doses were necessary.‡

Dr. Cleghorn uses this remedy, the vitrum antimonii cera-

* Zimmerman. † Ibid. ‡ Ibid.

tum, and also the ipecacuanha, when it begins like simple diarrhœa, without pains in the belly or fever; of the vitrum he gives from five to ten grains in the morning; of the ipecac. ten to fifteen grains in powder; evacuations through the day and a sweat at night, were their common effects: he preferred the ipecacuanha generally, as more certain in its operation. The vitrum, however, is sometimes successful when every thing else fails; evacuations are procured every other day by these medicines, with a small opiate at night, sufficient to mitigate pain, without producing stupidity, or preventing the discharges. When the disease began with chills as a common fever, or with violent tormina, pain and inflammation of the bowels, bleeding to ten or twelve ounces of blood was premised by Cleghorn, and repeated two or three times, as the pain and inflammation of the bowels demanded, with fomentations to the belly, warm diluent drinks, and avoiding opium; mild purgatives, as soon as the fever abated the irritation in the bowels by the free discharge of their contents; also whey, weak broth, sweet oil, manna, cremor tartari, were recommended for this purpose. Six or seven grains of calomel, with a grain of opium at night, after the warm bath, and a purge of senna, manna, and sal catharticum, next day produced copious stools, with great relief. After the inflammation had abated, mucilaginous medicines should be used; to ease pain when the disease had continued for some time, he gave from one grain to six of opium, as habit rendered it of no effect, and repeated it once or twice a week; in the mean time giving clysters, cathartics, and small doses of ipecacuanha. The opium, he says, he sometimes continued from September to June, when his patients gradually left it off; their lives being saved and perfect health restored. He also states, that he found the habit of taking opium more easily broken off than that of ardent spirits. When the fever came on with a chill, and terminated in sweats, the gripings being regularly exasperated either every day or every other day, he gave the bark with good effect. Dr. Rush testifies to the efficacy of the same remedy taken in the intermissions; but when gangrene threatened in the last stages it was seldom useful.

The purges should be continued as long as the stools are bloody or unnatural in smell and colour; they should be mild and gentle; as drastic articles produce the colic, and greatly debilitate.* The use of calomel as a purge has become general in all remittent fevers. It operates as a mild cathartic,

* Zimmerman on the Dysentery, p. 40, Lond. 1771.

assists the effect of other remedies by being continued daily, prepares to subdue the disease if obstinate, and finally succeeds by touching the mouth. This medicine is recommended in large doses, combined with opium, by Mr. Power,* until ptyalism is effected. In tropical countries this may succeed very well; the opium, however, except in very slight cases, we should regard as dangerous; calomel, in large doses, is by all means advisable, premising blood letting, and assisting it by other purgatives. In this climate, however, it will not generally be necessary. Calomel, administered in small doses with opium, will be found to have a gently laxative and beneficial effect; it allays the vomiting, remains on the stomach, and produces natural evacuations.† Zimmerman recommends, above all others, acid laxatives; and that the stools should be evacuated as often as nature indicates, and should not be retained.

Sometimes medicine will not be taken, from the obstinacy and youth of the patient; grapes, peaches, blackberries, may be given, as they purge gently, without pain, and relieve the disease.‡ Sir George Baker also speaks highly of the use of these fruits; he also states, that the attacks of those who took freely of them, were slight. Zimmerman also recommends lemonade with boiled fruit. In the dysenteries of temperate latitudes, where the disease has a more chronic character than in hot climates, they may be used with advantage, but in those of high morbid action, in which the digestive powers of the stomach are suspended, it will be found that the acid which is generated by them will be pernicious; as nausea, with great lassitude, will be their results. In the convalescence, moderately taken, they will be found to be valuable as gentle laxatives, and also as they afford a mild nourishment to the system; the patient must be warned, however, against excess in their use. Their operation must be assisted by mild mucilaginous drinks freely administered; copious dilution is of great use in dysentery, and for this purpose simple water is found to be equally useful as in bilious and continued fevers, and more particularly warm water, for a tea-cup full taken every quarter of an hour has often cured it.§ Whey, as it is slightly laxative, is perhaps better.

* Medico-Chirurg. Journal and Review, vol. iii. p. 179, quoted by Lond. Med. Repos. p. 344. 1817. Dr. Johnson claims the discovery of this mode of exhibiting this article, and we believe justly.

† Dewar on Dysentery, p. 149, Lond. 1803.

‡ Zimmerman on Dysentery, Lond. 1771, p. 89—90. Tissot confirms the same practice.

§ Ibid. p. 44–5.

Cold water, according to Zimmerman, in the beginning of the complaint, is always dangerous. Linseed tea, sweetened with sugar-candy, answers very well as a drink; milk increases the gripings, and should not be used when the patient is recovering: Pringle never gave it except diluted with lime water. Cream, rice, oat meal gruel, are too heating; a solution of gum arabic, or an emulsion of almonds taken warm,* are good drinks. A preparation of wax was used by Sir John Pringle and Dr. Huck, which is highly recommended.

℞. Ceræ. flav. ʒiss.
Sap. hispan. dur. ℈i.
Aq. pur. ʒi.

Pour them, after being melted by a gentle fire, into a mortar, and mix with them gradually ʒviii of water, and make it palateable with a little nutmeg and sugar. The patients, on account of the exposure, and the motion and agitation of the bowels, should not be obliged to get up from their beds to go to stool. The use of flannel, with a roller of the same material rolled round the body, and kept constantly and accurately applied, will be found, in some measure, to obviate the danger. The room must be made of a comfortable temperature, and the patients, if possible, should not rise from bed at all. A bed pan may be slipped below them, and they can remain on it, for hours, without inconvenience. The Spaniards use leather instead of a bed pan: it can be washed and dried as often as necessary.†

With regard to the use of sugar of lead in this disease, though praised by Mosely, Jackson, and others, it is a remedy occasionally so decidedly poisonous in its effects, even in small doses, that it is improper to be trusted, though it may occasionally be useful; this is proved by ample experience: It produces in some persons paralysis, colic, &c.‡

The decoction of the triumfelta triloba has been used with good effect in the dysenteries of the West-Indies, by Professor Wendt, of Copenhagen: it is used freely as a drink.

Turpentine is also recommended in dysentery. It has succeeded where the inflammatory action does not run high, and more particularly in debilitated subjects. In inflammatory cases it must not be used. It succeeds also in the diarrhœa of children, which proceeds from a slow inflammatory action. Calomel, three grs. with the Dover's powder at night, and

* Zimmerman, 1771, Lond. p. 45. † Cleghorn.

‡ Lond. Med. Transactions, Vol. III. p. 446, a case is related in which it produced these effects in the dose of 15 drops, thrice a day, of the tinctura saturnina.

followed in the morning by the turpentine in mucilage, is said to be valuable.*

Cascarilla, Peruvian bark, all bitters, stimulants, and narcotic medicines, should be resorted to with great caution, and astringents should not be used at all: wine should be avoided; spirituous liquors and spices, buttermilk, curds, animal food, cheese, gravies, eggs, pastry, garlic, potatoes, are also improper.

Narcotics produce deceitful remissions of the pains and discharges—supineness and inactivity in the physician, with regard to the use of the proper medicines, and, finally, inflammation, ulcers, and gangrene of the bowels, coma, and death.† Inflammation, colic, schirrus, abscess and ulcer of the intestines, indurations of the liver, anxieties about the præcordia, inflammation of the stomach, apoplexy, epilepsy, rheumatism, ophthalmia, and incurable cutaneous disorders, are said, by Tissot, to be the results of these remedies, given early in this disease.‡

Zimmerman confirms the above effects. They also change a bloody into a purulent excretion, produce delirium, violent pains on the slightest touch on the surface of the body, and death generally between the ninth and twelfth days. Hysteria and spasms also were their results.§

The great evil of these pernicious practices is, that those who follow them escape censure, by the belief that the patients have died of other diseases, into which the dysentery had been metamorphosed by their remedies.

Astringent medicines increase the pain, fever, heat, and danger, excite heat in the stomach, hiccough, ulcers in the mouth, vomiting of blood, inflammation and gangrene in the bowels, constipation, colic, gout, hectic fever, jaundice, tympany, œdema, dropsy, and lameness.‖

Impatience of temper predisposes to attacks of this disease, and a longer continuance of it; because fear makes the danger always present. Frequent paroxysms of anger change the dysentery from a bilious to a typhous state. Deadly paleness of the face, white lips, fixed and yellow eyes, tremors of the body, and great thirst, strangury and pain in making water, are its symptoms.¶

* Lond. Med. Repos. 1823, p. 61.
† Degner, quoted by Zimmerman, p. 96.
‡ Ibid. p. 97.
§ Ibid. seq.
‖ Zimmerman, p. 96.
¶ Ibid. p 220.

When the cure is incomplete and the purgings gone, the diluting drinks, with gentle astringents, or as Dr. Zimmerman advises, the infusion of rhubarb, which as a tonic and laxative is invaluable: cascarilla with cinnamon water is advised by Eller; if the griping return, some purging and aperient salt or manna should be given.* In this stage, when the patient feels a great lassitude and languor, a segar or two are found to revive, compose, and prepare the system for sleep. It must not be used constantly, as it loses its effect; when judiciously given, it forms a valuable substitute for ardent liquors and opium.† It invigorates the system after the operation of an emetic, and, when the patient is costive, it moves the bowels gently; if it gripes, something else had better be given. If the patient should have tenesmus, hemorhoids, or prolapsus of the rectum, sitting over the steam of hot water will be valuble: four or five folds of flannel should afterwards be kept over the part, by sewing it to the inside of the small clothes.‡

Relapses.—Cold air, laying aside the medicines too soon, anger, ardent liquors, indigestible food, &c. produce relapses.§ Zimmerman advises manna, almond emulsion, for children, to keep the bowels open; rhubarb, cream of tartar, and ipecacuanha, for adults. The strength must be properly estimated in prescribing during a relapse; as in general the remedies must be more gentle.

Convalescence.—Gentle purgatives combined with tonics, without any stimulating quality, are proper after the dysentery has been removed; eggs (excepting the yolks) are improper, as they are too heating; flesh of all kinds should be avoided, and also broths, fat, butter, and oil. Barley water, rice-gruel mixed with cream of tartar—a preparation of barley boiled down to a thick consistence and strained through a cloth, may be given as food, and, when made into a drink by adding tepid water, it will be found to be excellent.‖ Zimmerman also permitted lemons and lemon juice in the gruel, after the convalescence was established, and when they were further advanced, a diet made of almonds, milk, the white of an egg, and sugar. Sir John Pringle found copious draughts of simple tepid water valuable, when all nourishment was rejected. It is necessary, however, to avoid all causes which may produce a relapse, the patient should therefore live as if he still had the disease, particularly as a relapse is more dan-

* Zimmerman, p. 227. † Dewar, p. 132.
‡ Dewar on Dysentery, p. 160, Lond. 1803.
§ Zimmerman p. 228. ‖ Ibid. c. III. p. 43.

gerous than the first attack ; a little ginger or aromatic powder, will render the diet more palatable. The quantity of food should also be regulated with the greatest care, milk diet answered very well in 1765 in Swabia ; flesh meat is dangerous, and wine and all spirituous liquors should be avoided. Oatmeal gruel, when used as a diet in the disease, constipated the bowels and produced an incurable lameness.* Warm milk, Zimmerman also states, arrested the stools, produced weariness, violent pain in the limbs, and incapability of exercise ; when there was inflammation, both milk and oil he considered as dangerous. Painful contractions and oppression at the stomach, vomiting of curdled matter, convulsions, and death in a few days, were produced in several children by taking milk.† The same effects were produced in1738-9, in the same disease.

Symptoms of the Typhous variety.—A disgust at food, a sudden loss and prostration of strength, anxiety and disorder about the pit of the stomach, bilious vomiting, restlessness, fainting, stupor, heaviness, glassy fixed eyes, sometimes a wild unmeaning ghastly physiognomy, with excruciating head-ache, calm delirium at the beginning of the disease, and constant watchfulness ; the delirium increases ; convulsions and fainting sometimes ensue ; the voice becomes weak, the extremities cold, face pale, lips white, and green matter is vomited ; the tongue is black, and the teeth coloured with brown tenacious slime; in some cases there are no pains in the bowels; in others they are violent and intolerable, the stools excessively copious ; with sometimes no discharge, at others great tenesmus, death following in a very few days—the fæces are of various colours, mucous, watery, dark brown, yellow or green, or citron colour, copious, and like watery blood ; when they are of this consistence, the patients become delirious, suffer little, and die on the third day.‡ Cold sweats, panting breath, pulse quick and small, intermittent or not to be felt, hiccup frequent, skin hot, without any remittance of the fever, also are symptoms of this form. Sometimes the fæces are greyish red, black, slimy, mixed with a substance that resembles chocolate and blood, of a very bad smell, the stools are copious, at others, black and small in quantity, the pulse low, tremulous, and sinking, with increasing delirium.§ The voice becomes weak, the looks wild, with violent gestures and sub-

* Zimmerman, p. 98. † Ibid. p. 99.

‡ Zimmerman p. 163–4–5, and Clarke on the Bengal Dysentery, quoted by Harty, p. 62.

§ Zimmerman p. 165.

sultus tendinum. Strangury, heat in making water are still more frequent than in the common bilious dysentery; an entire stoppage of water also occurs; they demand cordial drinks, the skin is dry, or cold and clammy, brown and bluish petechiæ appear on the body, but not on the face; spots and pustules are seen over the neck, armpits, and loins, filled with greenish matter.* The disease ends in heartburn, difficulty of swallowing, prostration of strength, light delirium, picking of motes off the bed clothes, cold extremities, eyes hollow, fixed, slightly staring and glassy, hollow temples, pointed nose, sunken cheeks, and death sometimes in twelve hours from the first attack.

Prognosis in the typhous dysentery. An entire stoppage of urine; urine of a brown colour, of a fœcal smell, are bad signs. When the breath, the saliva, and the perspiration have the same odour, the omen is bad. Copious and involuntary stools, in which much blood passes, sinking pulse, increasing delirium, with a slight fever, are also bad signs. Bilious stools, followed by a perspiration, are favourable. Watery bladders breaking out upon the skin, are so likewise: also a miliary eruption, tumours on the skin, and erysipelas. Brown and bluish petechiæ are bad omens. Spots and pustules are sometimes seen on the neck, under the armpits, and about the groins, which are filled with a greenish pus.† Hiccough, in the typhous variety, increasing difficulty of swallowing, a distension of the belly, with anxiety about the pit of the stomach, hysteria, a dry black tongue, faintings, small gangrenous spots on the legs and feet, cold sweats, aphthæ of a black or brown colour, livid lips, gangrenous sore throat, subsultus, wild looks, are fatal signs.‡ However, sometimes these symptoms suddenly cease, the mortifications on the legs heal up, and the petechiæ, covering the body, disappear; the appetite, secretions, and excretions become natural, and the patient recovers.§

Treatment of typhous dysentery. The situation should be airy, and the chambers of the sick be well ventilated, and most scrupulously cleanly; otherwise, the disease becomes contagious; and the dead must be immediately removed. Venesection in this form, even at first, is improper. Other evacuations must be used sparingly, and only at the beginning of the disease, and often, even then, be entirely omitted. Emetics are sometimes noxious at first; purges, however, are generally useful, when carried to a moderate extent. The

* Zimmerman, p. 65.
† Ibid. p. 166–7.
‡ Ibid. p. 167.
§ Ibid.

state of the system will determine their propriety; thus, if the patient be faint, the evacuations very copious and watery, and in the space of twelve hours great debility appear, evacuants must be avoided, and tonics should be used.*

Emetics, in some typhous epidemics, are hurtful at first, though, in the course of the disease, they are valuable. This, of course, can only be determined by actual experience.† Great insensibility of the stomach to the action of these remedies, is often observed in this disease; a full dose of ipecacuanha, though the person is retching to vomit, produces no effect: Purges must then be ordered; and, if they, as is sometimes the case, produce no evacuation, perspiration will be found to be useful: Vater succeeded with gentle purges, in the typhous dysentery, followed by tonics: Landholdt prescribed sudorifics, in the first stage of the disease, by the fourth day, when the pain was great in the belly, and the stools copious, a dose of rhubarb was given, and afterwards free perspiration excited: Petechiæ are prevented by proper evacuations at the beginning of the disease.‡

Emetics of ipecacuanha should generally be tried at first, and, if the nausea return in the course of the attack, they may be repeated: Huxham, Baldinger, Zimmerman, support its use in typhous fever; and in dysentery of this type, it is no less valuable; tea of chamomile, or of eupatorium perfoliatum assist its operation; which is also much promoted by a dose of rhubarb, seven or eight hours after.§ Other purges are also given; as, manna, sulphate of magnesia. The union of the purge and vomit of rhubarb and ipecacuanha, given on the first day, to the quantity of twenty grains, and afterwards, five grains three times a day, is recommended by Baldinger as valuable.‖ Zimmerman praises, after the first vomit has operated, the continued use of two, three, or four grains of this medicine, in a cup full of chicken broth every two hours: Soups, which are improper in the remittent dysentery, are invaluable in this variety: White wine may also be given with panada; the wine should be cordial, and not too strong:¶ a weak and fluttering pulse, with delirium, a slow and weak voice, with decreasing strength, render wine necessary, as in ordinary typhus; a trial, however, is absolutely requisite, to determine exactly its expediency, and the propriety of continuing it: Van Swieten re-

* Zimmerman, p. 237.
† Ibid. quoting Vater, Epid. of 1746.
‡ Ibid. p. 242.
§ Ibid. p. 242–3.
‖ Ibid. p. 243–4–5.
¶ Ibid. p. 247.

commends an ounce of wine to be taken every hour, in the following formula: Half a pint of wine, a pint and a half of barley water, an ounce of cinnamon water, and six ounces of sugar.*

The bowels in typhous dysentery do not bear acids well: as the belly becomes distended, retention of urine takes place, and the liquors are not discharged.† Oranges sliced, and sugar sprinkled, and then boiling water poured over them, make a proper drink: Wine, however, is the best beverage that can be taken.‡ Camphor, as it is more lasting in its effects than wine, will also be found to be useful: it is cordial, and must be given often, and in small doses: Cinnamon, pepper, cloves, alspice, may be tried; they are often useful: Blisters, applied to the legs, relieve in obstinate cases: The bark, if the strength declines, becomes indispensably necessary:§ The sulphate of quinine, given every two hours, will be found to be valuable. It may be given with the snake root. The doses of these medicines should be small, and frequently repeated: They may be combined with camphor, which, next to the bark, is most useful in this variety: Carbonate of ammonia, compound tincture of lavender, are also good. If these remedies do not succeed, the musk may be tried, and will be found, when given with cinnamon and wine, to be an excellent stimulus.‖ The danger of the stools producing debility by their quantity, is great, in typhous dysentery: It is, therefore, necessary to give a dose of laudanum, or some astringent, after each evacuation: A sweat afterwards, Sir John Pringle observes, often follows, and the disease disappears: The bark and opium at night, if diarrhœa was present, and at the same time, the infusion of rhubarb, was very useful in the practice of Munro.¶

Emetics of ipecacuanha, also put a stop to the purgings, even in the last stage; astringents will properly follow: In all cases where the stools are copious in the typhous form, they become absolutely necessary.** The use of the flannel bandage does not succeed so well in this variety; as soon as excessive debility is produced, the patient is but little relieved by its application.††

Chronic Dysentery is painful and difficult of cure.

* Zimmerman, p. 247.
† Ibid.
‡ Ibid. p. 250.
§ Ibid. p. 254.
‖ Ibid. p. 255.
¶ Ibid.
** Ibid.
†† Dewar, 1803, p. 140.

Symptoms.—A sense of heaviness, without appetite, indigestion, painful loose stools, frequent throughout the day; slow, weak pulse; great debility; dry rough crust on the tongue; shreds of membranes, and undigested food in the stools, with a discharge of pus and bloody water, tenesmus, and emaciation.

In general, as the disease consists of inflammation, it will be found, that purgatives are necessary to evacuate the fæces, and they must be continued as long as hardened masses are discharged: If the stomach be sick, an emetic should be premised, afterwards the use of the infusion of rhubarb, manna, or tamarinds, and they should be continued till the bowels are perfectly free, and the tenesmus is entirely gone: Rhubarb operates as a tonic, and at the same time cures the griping and tenesmus.* The use of three grs. of ipecacuanha, two grs. of opium given morning and evening, allays irritation and keeps the bowels free.†

A plan proposed by Senac I have seen valuable in these diseases: one gr. of tartar emetic dissolved in a pint of water, and taken in the dose of half a gill every two hours, keeps the bowels open, and abates irritation. As soon as the tenesmus has subsided, the patient may take a weak infusion of rhubarb, and gradually increase the strength of his diet till his health is restored: The cerated glass of antimony is recommended instead of the tartrate for the same purpose, in small doses, with good effect: the uncertainty of antimonials prevents their exhibition only in the above manner with safety: the wax of the cerated glass, as it permits the slow solution, and corrects the acrimony of this medicine, prevents irritation, and renders it valuable.

Sydenham, in obstinate tenesmus, which continues for a long time after the patient is pretty well recovered from every other symptom, advises blood-letting—Local, from the anus, will be found to be valuable.

Simple cold water, in the quantity of half a pint every four hours, with milk as the diet, is recommended by Zimmerman, on the authority of a celebrated physician of Switzerland. By the use of this remedy, in four days, the symptoms abated.‡ Where there exists considerable tenesmus and griping, free stools produced by manna and rhubarb are valuable.§

Four or five days should be passed without tenesmus be-

* Zimmerman, p. 273–4.
† Ibid.
‡ Ibid. p. 267.
§ Ibid. p. 270.

fore any stimulant except the opium joined with the ipecacuanha at night be tried: Sometimes stimulants and astringents produce rheumatism, gout, and inflammation of the rectum: Orange peel, cinnamon, and columba, may be ventured upon after the above interval; but they should be given in union with rhubarb, and other gentle purgatives, and left off on the slightest appearance of irritation, or tenesmus: The danger of astringents is proved by the most satisfactory evidence: In a mild species of chronic dysentery, they have produced fever, suppuration of the bowels, fistula in ano, and death. The most thorough conviction must therefore be entertained that the bowels are perfectly free from inflammation, before any astringent be used.*

Various stimulating bitters have been advised after all danger of inflammation, griping and tenesmus are passed: of which the simarouba promises more than any other; from the recommendation of Zimmerman. He advises it in the dose of half a dram four times a day, in any convenient mucilaginous vehicle. In the following form it will be found useful: two drams of simarouba to a pint of water, boiled for half an hour, and given one half in the morning and the other in the evening: This plan will only succeed when the dysentery approaches to a diarrhœa, and there is no ulceration of the bowels, as in that case, from its irritating qualities, it will undoubtedly increase it.†

In general, the same rule is to be observed with regard to astringents; they must be postponed till all tenesmus and inflammation has subsided: Riding in the open air, to a moderate extent, will be found serviceable: Opiates, with ipecacuanha at night, to secure rest, may be continued after the general irritability of the system has subsided by the free use of evacuants.‡

Sago, salep, rice and milk, weak chicken broth, as the diet, and barley water, gum arabic water, rice gruel, chicken water, toast and water, as the usual drink, with warm cloathing to prevent relapses, continuing the gentle purges of manna, salts, infusion of rhubarb, and, when the stomach is sick, an emetic of ipecacuanha; will be found, in these latitudes, to be invaluable.

Among patients addicted to free living, the use of the blue pill till the mouth is affected, besides being a remedy which will keep the bowels loose, will, by touching the mouth,

* Zimmerman, p. 280. † Ibid. ‡ Ibid.

prevent them from eating solid food, and be a useful assistant in the cure.

The above plan will be found to be particularly suitable to these latitudes: where the season is remarkably hot, or in tropical latitudes, mercury had better form a principal item in the cure. For this purpose it may be given in combination with the antimonials or ipecacuanha in small doses: calomel or the blue pill in the dose of two grs. of the former, or four of the latter, every three or four hours, to produce a ptyalism, will be found to be useful: If the stomach be irritable, or where too laxative an effect is produced, three or four drams of the strong mercurial ointment may be applied, in friction, to the surface daily. Sometimes three or four grs. of calomel with one of opium, every three or four hours, will answer under these circumstances: Under this plan a slight ptyalism will soon be produced, and the cure will advance rapidly: in the mean time, however, the articles above advised must be persisted in; the purgatives of rhubarb, the ipecacuanha, &c. and the diet, according as the state of the bowels indicate: this is the more necessary, as it returns as soon as the effect of the mercury ceases: If there should be fever at night, effervescing draughts should be used: and if the inflammation is subsided sufficiently, the tenesmus may be allayed by a dram of laudanum given in a wine-glass full of starch: The value of a slight salivation will be appreciated, when it is recollected, that this form of the disease is often combined with chronic hepatitis; to alleviate which, the gently purgative plan will be found equally serviceable:* Flannel shirts, avoiding the tenesmus by not going often to stool, should be observed.

Hepatic Dysentery. The liver is sometimes enlarged, inflamed, and partially suppurated, sphacelated, and in consistence resembles rotten cork, and at the same time the intestines are inflamed, their coats thickened, and in some places sphacelated.† V. S. to once or twice as the pulse indicates; an emetic of tartarized antimony, or sulphate of zinc, followed by a purge of castor oil, are the preparatory measures: two grs. of calomel, one quarter of a gr. of opium, and a gr. of ipecacuanha, given every three hours, the bowels kept quiet by glysters of starch ℥iv. with laudan. from sixty to an hundred drops in each, and viii grs. of ipecacuanha administered

* See Johnson on Tropical Climates, p. 231-2-3. 1821.

† Dr. Chisholm on the Diseases of Tropical Climates, quoted in Lond. Med. Repos. p. 325, 1822.

thrice a day, gradually produces produces salivation, and completely relieves the patient.*

Chronic Aphthæ.—A disease intimately related to dysentery, is cured by a dose of calomel and rhubarb at night, followed in the morning by an infusion of senna, sulphate of magnesia, tincture of senna, and compound tincture of cardamum seeds: The mouth must be touched as in the above disease, and the patient, by a course of mild tonics, may be relieved: Cascarilla, cinchona, simarouba, are advised; or the following pill: oxyd. zinc. gr. ¼ to gr. i. assafœtid. pulv. valerian. extract. hyosciam. āā gr. i. m. f. pilul. ter in die sumend.† Residence in the country, abstinence from fruit and vegetables, with the daily use of lime water, are also necessary.

Bilious Diarrhœa.—The variety of this disease strictly called Bilious Diarrhœa, differs from the dysentery only in having no fever: Tough, thick mucus, is vomited, and from forty to sixty stools occur in twenty-four hours, which are of various colours, and voided with little pain: Emetics, tamarinds, rhubarb, chamomile tea, administered as in the dysentery, perfectly cures it: Blisters succeed best in obstinate cases: applied to the legs or nape of the neck they are useful.‡

Symptoms of Diarrhœa.—It is sometimes gradual, at others sudden in its attack: the stools fluid, otherwise natural—sometimes crude and indigested, greenish, mucous, approaching the dysentery insensibly.§

Diarrhœa is distinguished from cholera by the absence of vomiting, cramps in the legs and arms, by a natural pulse, and the general mildness of the symptoms.‖ From dysentery by the evacuations being more copius, and by the absence of straining.¶

Causes.—Unusually warm weather; fresh provisions after being confined to salt meat on a long voyage; bitters, as porter, particularly if acid; spoiled fruit; rancid meat; cold, partially applied to the body when at rest, as sleeping in a current of air; sudden transition from heat to cold; cold combined with moisture—as when sleeping in a damp room—in wet clothes—in a wet surtout worn over dry clothes:

* Dr. Chisholm on the Diseases of Tropical Dlimates, qnoted in Lond. Med. Repos. p. 325, 1822.

† Ibid. ‡ Zimmerman.

§ Dewar on the Diarrhœa and Dysentery, p. 27–8.

‖ Ibid. p. 47. ¶ Ibid. p. 44.

animal exhalations; intemperance in eating and drinking; fat meat; fruit taken to excess, even though of the most innocent kind; cucumbers, melons, grapes, apples, peaches, apricots, oranges, denote the order of the danger of fruits in general use.* Dewar considers that the acid of lemons has a tendency to restore the tone of the bowels, and is not by any means dangerous: this may be the case when persons are returned from a long voyage; but it certainly is not so to those in ordinary health who are not accustomed to this acid. Experience with regard to the use of these fruits in each person, can only determine their danger. The use of pepper and vinegar corrects their effects: Cold water, in immoderate quantities, often produces both diarrhœa and dysentery: The Egyptians drink, when they are thirsty, in small quantities, and then they take it up with the palm of their hand, and only wet their mouths.† Cold water, after fatigue in hot weather, Dr. Dewar states, produced uneasiness in the bowels, followed by griping and dysentery.

Prevention.—An army encamped in open plains, and affected with this disease in hot weather, will be relieved of this disease by retreating to garrisons or well shaded situations, and avoiding the excesses of eating, drinking, the immoderate use of summer fruits, of cold water, when they are debilitated; by wearing flannel or muslin night and day, so as to exclude the slightest cold air, and a moderately tight bandage round the belly, which gives tone to the bowels: When seized on a sudden, a small piece of cassia or cinnamon, or ginger, chewed, gives comfort, strengthens and relieves the soreness of the bowels: The diet should be such as the person has been accustomed to, avoiding excesses.§

Cure.—Creta, extract of logwood, alum, kino, ipecacuanha, catechu, sulphate of zinc, opium,‡ when there are no gripings, are sufficient for the cure. A proper diet of wheat flour, rice, sago, tapioca, barley, eggs, solid animal food, as mutton, beef, and fowls, at the same time is necessary: porter, beer, wine, broth, fat meat, coffee, bitters, and sugar, are to be avoided.

Chalk may be administered with mucilage combined with laudanum and the oil of cinnamon, which is cordial, stimulating and astringent: it neutralizes the acids formed in the bowels in consequence of indigestion. The carbonate of soda —of potash, have the same effects. These medicines may be

* Dewar on the Diarrhœa and Dysentery, p. 44.
† Ibid. p. 47. § Ibid. ‡ Dewar, p. 55.

given in the dose of 15 grs. every two hours, combined with eight or ten drops of laudanum, and a table spoonful of cinnamon water: alum, in the dose of 10 grs. in the same vehicle every two hours, may be given throughout the day: in a larger dose it purges: Kino and extract of logwood given in the same dose, are valuable: catechu, in the dose of half a dram, also succeeds: It is necessary to take care lest by stopping the diarrhœa too suddenly a dysentery supervene: it will therefore be prudent to give a dose of Dover's powder at night with two grains of ipecacuanha, or a gr. of opium with the same quantity of the last mentioned medicine, which will keep the bowels and the skin free: sulphate of zinc had better be given in union with opium in a pill—one gr. of each four times a day: The root of rhubarb chewed, will be found to answer this end, and also to promote the appetite: it may be given at night towards the close of the disease, combined with opium and ipecacuanha: If an astringent medicine fails in its effects, the dose must be increased: if after twenty-four hours it is of no use, it may be changed: Diaphoresis should be promoted by warm bed-clothes, flannel clothing, which will prevent the bad effects of exposure to cold on rising to stool: the evening air must be avoided: As soon as the disease is removed, bark, port wine, cascarilla, columbo, quassia, will be found to be valuable: The opium should be continued at bed-time in the camphor; the last medicine will be found to be valuable at night, previous to the entire cure of the disease: great care, from the susceptibility of the bowels, is necessary to prevent it.*

In a case related by Dr. Stout, of Bethlehem, which was attended with debility, œdema of the legs, tumefaction and fluctuation of the belly, the menses were suppressed; ergot (secale cornutum) checked the diarrhœa, and tincture of cantharides relieved the suppressed menstruation. The ergot, Dr. Stout supposes, acted not as an astringent, and therefore is not applicable to common cases, but exerted a new action in the uterus, which removed that existing in the bowels.

Another variety of this disease is mentioned by Dr. Hamilton, in which liquid fæces, of a light clay colour, offensive smell, great debility, followed by no organic lesions after death, are the prominent symptoms. Blue pill, with or without ipecacuanha, repeated every eight or ten hours, till the stools become healthy, or one gr. of calomel to an adult at the same intervals, is recommended as the plan of treatment.†

* Dewar, p. 55, &c.

† Johnson's Journal, p. 56, 1820.

Cholera.—The history of the Eastern variety contains all that is new on this subject. It is entirely similar to that which appears in this country in summer, and generally begins with headach, vertigo, lassitude, pain, and tension of the belly. The patient faints and falls down as if dead:* the voice hardly audible, skin cold like wet marble: the appearance changes in a few hours, from a full, fat, rosy plumpness, to sunken cheeks, hollow eyes, all the ghastliness of death, and finally to death itself.† During the disease the internal heat and thirst are excessive; the dejections are at first clear and watery, mixed with fluids lately taken, or undigested food.‡ The pulse soon disappears, the fingers and toes are shrunk in a remarkable manner; the nose is cold and pointed, and the eyes are hollow; there is pain at the angle of the jaw on each side, with partial deafness; horrible spasms running up from the legs, into the belly, followed by colic, vomiting, tenesmus, pain, and death. The arms and legs become stiff, and a livid deadly colour overspreads the body; the abdomen becomes distended like a drum; the perspiration, in the latter stages, is excessive, and the patient is cold, though he complains of great heat.

Treatment.—In hot summers of cold latitudes, and in hot climates, calomel is given in scruple doses every second hour. To equalize the circulation in the large blood vessels, venesection is practised with success principally among Europeans, in whom the disease is often inflammatory: the coldness and clamminess of the skin, and weakness of the pulse, always contra-indicate bleeding.§ Venesection, however, is of all other remedies the most successful in Europeans and in robust native subjects, when called in within the first two or three hours after the attack: spasms, irritability of the bowels, and the universal depression of the system, soon disappears. In native subjects the typhous state, however, comes on generally at once, and V. S. is impossible.‖ Calomel, in the opinion of Jameson, is the best purgative: administered at first in the dose of 20 or 30 grs. immediately after bleeding, where that evacuation is proper, followed by sixty drops of laudanum and 20 of oil of peppermint, supporting the warmth by external heat, the hot bath, and frictions, constitute the treatment most successful in this horrible disease.¶ Blisters

* Edinburgh Journ. 1821. p. 516. Telfair's Acct.
† Ed. Med. and Surg. Journ. p. 316, 1822. ‡ Ed. Journ. p. 518. 1822.
§ Marshall's Med. Topography of Ceylon. Ed. Journ. p. 300–1, 1821.
‖ Cholera of India: Johnson's Journal. p. 410, 1820.
¶ Reports on Cholera, ibid. p. 412.

to the stomach, made by applying equal parts of nitric acid and water to the surface, and neutralizing it as soon as it has produced its full effect with salt of tartar: over this, a blister of cantharides was placed to keep up the irritation. This active treatment saved the lives of many persons under the care of Mr. Powell, surgeon in India. It never fails to operate instantaneously.*

The doses of laudanum taken in cholera, are often excessive, 120 drops, with ether, ammonia, &c. every 15 or 20 minutes, at the same time bleeding from the arm to 40, 50, &c. ounces. The disease, from the great quantity of laudanum taken, terminates in a soporose state, which continues several days. Calomel and jalap produce offensive evacuations, of a dark colour; and if persevered in a few days, sometimes effectually relieves† any remaining symptoms. The warm bath had a good effect, according to Dr. Kinnis; diminishing the spasms, and increasing the circulation. It sometimes, however, increased the perspiration to an excessive degree. The patient should be always kept warm and comfortable, and in an apartment which is well ventilated. Wine and spirits are necessary to support the strength after the relaxation produced by the opium, &c.

Appearances on dissection in Cholera.—A greenish, blackish fluid in the stomach, the internal surface of which and duodenum is inflamed; dark spots on its surface; the blood-vessels highly distended; the pylorus like a hard and tumefied gland, much increased in bulk.‡ The inner coat of the large intestines is dark red, brown, or blackish, containing fluids like pus—like shoemakers' paste, often without bile, or resembling tar.§ In cases that terminate rapidly, the brain and its membranes are highly inflamed, proving that this disease, in its most violent form, does not arise simply from the stomach, but from the brain.‖ The intestines, in the rapid cases, presented no marks of disease: in those which were protracted, they were reddish and inflamed; they were always without thickening of their coats.

Prevention.—The proper preventives of cholera are cloathing strictly adapted to the season; generous diet; flannel worn next the skin; moderate exercise in the open air, and occasional cathartics.¶

* Edinburgh Journ. 1820, p. 544.
† Ibid. p. 529. 1821.
‡ Ibid. p. 523.
§ Ibid. p. 529.
‖ Marshall on the Med. Topog. of Ceylon, p. 407.
¶ Ranken. Edinburgh Journ. 1823, p. 7.

On the subject of Colic we have nothing particularly interesting to state. See the interesting paper of Dr. Staly, in the Recorder, No. 2, Vol. VI.

Art. VI.—*Case of Lithotomy.* By Horatio Gates Jameson, Surgeon to the Baltimore Hospital.

In relation to healing wounds after this operation by the first intention, I beg leave to offer the following additional fact in confirmation of this practice.

Since my essay was written, a boy, aged five or six years, was sent to me from Kent county, eastern shore of Maryland, labouring under stone in the bladder. He had suffered the severest tortures from its rough surface for about eighteen months, as it resembled very much in shape the human heart, with an enlarged aorta rising out of it. The projection of that part of the calculus resembling the artery rendered the stone peculiarly irritating. It was seized with facility, but being oblong and curved, it necessarily broke under a gentle pressure of the forceps. The whole bulk of this stone was equal to a pigeon's egg. It will readily be believed that a stone so well calculated to irritate the bladder had produced a state of contraction which would not have admitted the use of the lithontriptor.

Having seen that no hæmorrhage existed, I put a single suture into the external wound a little deeper than the integuments, and found it sufficient to bring the divided surfaces nicely into contact. Not a drop of urine came through the wound; a disagreeable occurrence, however, took place. The tube being imperfect, instead of bending properly to the curve of the urethra, gave way at one point where it was most bent, and its sides were pressed in so as to bring them into contact, and nearly shut up the tube. A wire could be passed in; I could also inject warm water, and withdraw it again with the syringe, but still the urine flowed imperfectly.

The tube, however, emptied the bladder sufficiently, with the aid of the syringe, to admit of the adhesion of the internal wound before the bladder was stimulated into contraction. When the bladder had contracted in the usual way in its inflamed state, the patient suffered violent pain as often as he voided urine; his sufferings were wholly attributable to the

unexpected stoppage of the tube. I had met with similar accidents in my operations upon the urethra, but the tubes were very large, and therefore more liable to fall into cracks when bended. In the smaller sizes, such as are used in boys, nothing but an imperfect tube could lead to such an occurrence. Had I not been aware of the nature of the difficulty, and relieved my patient by the syringe, I no doubt would have been baulked in my efforts to heal by the first intention. I did not think it proper or safe to withdraw the tube until I found a considerable portion of the urine coming along side of the tube through the urethra. But so perfect was the union of the divided prostate and neck of the bladder, that no leakage took place from the wound.

The patient, notwithstanding this interruption, did extremely well; had no alarming fever, nor was there the least tension or soreness of the abdomen at any time. He recovered sooner than if I had not applied the suture, but suffered more pain than he would have done if the tube had answered our purpose as it usually does. I must also state, that the external wound did not heal entirely by the first intention, owing, I have no doubt, to the inflammation produced in the perinæum before it was sufficiently solid. Let me repeat, no urine came through the wound, and the patient recovered much sooner than is usual by the common method.

I am preparing a set of silver tubes well gilt to be bent in shape of the letter S, having only a lesser curve. These are to be tied by threads to holes in a piece of ivory, through which there is a hole to admit the penis to pass through. The block of ivory is then worn like a truss, and kept on by a strap around the body, and two smaller ones passing from the lower end of the ivory between the thighs, and over the nates so as to buckle to the large strap over the anterior part of the ilium. This is a plan which I have had in successful operation on a little boy since February last. He had his urethra ending behind the scrotum; the penis perfect; I passed a trocar through the penis, inserted a tube, confined it as above stated, and have been occasionally applying, as advised by A. Cooper, in certain diseased states of the urethra, nitric acid, with a view of contracting the orifice and of thickening the edges, which were too thin to admit of adhesion by means of suture. Of this case, and method of confining a catheter in the urethra, more hereafter.

Art. VII. *A Case of the Use of Prussic Acid, in Tetanus.* By Dr. Daniel H. Trezevant, of Columbia, (S. C.)

The enclosed essay is sent, with the hope, that it will induce other practitioners to make trial of the prussic acid, as a remedy in convulsive disorders. The remarkable effects which it produced, in the case now stated, made a strong and lasting impression on the minds of the medical gentlemen who were present, and they unanimously agreed to give it a farther trial, whenever an opportunity should occur.

It has a most decided effect in allaying nervous irritation, and it is not hazarding, I think, too much, to say, that in many of the diseases arising from that peculiarity of constitution, it will prove a most valuable remedy. From some effects which I have witnessed, I am inclined to believe that the excessively distressing vomiting which is produced in pregnancy, the result of morbid nervous irritability, may speedily be subdued by this acid. May not gastrodynia be relieved by its use?

The case is given precisely as it was taken at the time, hour by hour. I did not think it worth while to make any alterations, concluding that, in its present form, it would prove most instructive. I have only one remark to make, and that relative to the quantity of laudanum used. It is usual to give it in much larger doses; but finding that the stomach rejected, from the first, any dose above that given, we were compelled to be satisfied with the moderate portion which we administered.

This acid appears to exert a much more decided effect upon the muscles of deglutition and those of respiration, than upon the limbs. If subsequent experiments prove this to be a fact, will it not be a valuable auxiliary in the cure of asthmatic affections, and the whole train of anginas.

Mr. C., on Monday, the 24th of March, received a wound from the discharge of a gun, loaded with five rifle balls; which penetrated the leg near the fibula, in such a manner as to denude about two inches of that bone of its periosteum, and fracture it. The balls passed on, struck the tibia, and shattered it very much, and a portion of it was completely shot away. For the convenience of surgical attendance, he was removed about three miles, from the place where the accident occurred, to Columbia. The wound was dressed with a poultice of meal and ley. No inflammation of any importance supervened, nor any constitutional derangement. The poultice was continued until suppuration and granula-

tions were formed. A few days after, they assumed somewhat of a flaccid appearance, and spirits were substituted. Under this treatment, with an occasional laxative, he continued to improve. About a week after the accident, when the sloughs had separated, I remarked, upon touching the denuded end of the tibia, that it was exquisitely sensible, producing intense pain. On Tuesday afternoon, the eighth of April, he complained of twitchings in the leg, and some degree of stiffness in the jaws. On Wednesday morning, when I saw him, the spasmodic jerks were very considerable, occurring about every fifteen minutes, and had, from his account, been so during the night; his rest, of course, was much disturbed. He was directed to take fifty drops of laudanum immediately, and thirty every two hours. Afterwards a larger quantity was tried, but his stomach would not bear a free use, or more frequent repetitions of it. Upon visiting him in the afternoon, he stated that he was much better, the spasms mitigated in force and frequency, the rigidity of the jaws less. The same course was continued during the night. Thursday morning, still better, twitchings less frequent and severe, jaws still more relaxed, articulation better, the treatment as before. At 12, rather worse, the spasm of the limbs not so frequent, but the muscles of the jaw more rigid. Spirits sal ammon. and bark were now added to the laudanum, and fifty drops given every two hours. 8, P. M. The muscles of the jaw still more rigid. The dose of medicine to be increased. On Friday, the spasms of the leg were almost entirely subsided; but the trismus was more severe; there was some sensation of straightening in the chest; the muscles of the neck were stiff and unyielding, and spasms were produced by every effort to swallow. The laudanum and hartshorn was now increased to eighty drops each, but the stomach rejected the laudanum. 4 o'clock. Tetanic symptoms increasing; gave three grains of opium, and four of calomel, every two hours, with the hope of producing mercurial action. 8 o'clock. Disease still gaining ground, fast approaching to complete trismus; continue the calomel and opium during the night. The wound, during the whole of this period, continues to look well; discharges a healthy pus, and granulations continue to form, and look firm and compact. The bone still very sensible to the touch. The quantity of opium was as much as he could manage to swallow; they were divided into eight doses, and he took one every quarter of an hour. Saturday. This morning, symptoms greatly increased; spasms recurring upon every effort

to swallow, and whenever any thing was offered him to drink. They now extended to the chest and back; great rigidity of the jaws and neck. Omitted the opium, and put him on the use of the spirits of turpentine, half an ounce at a dose, to be repeated every hour or two. After taking the first, the stomach became very irritable; spasms upon every exertion to swallow; pulse high, firm, and somewhat corded. 12 o'clock. The turpentine appeared to have induced a slight relaxation, but the spasms equally as frequent and severe; copious perspiration about the forehead and arms; spasms in the chest more severe; respiration much impeded, every motion bringing on a return; pain from the ensiform cartilage to the back. The situation of this man appearing desperate, I proposed, in consultation with Drs. D——, C——, and G——, to test the effect of the prussic acid; attempted to give him a dose in some mucilage of gum arabic; but, from the fixed state of his jaws, and the spasms recurring, did not succeed. Upon reflecting that this medicine acted upon the nerves of whatever part it touched, concluded upon insinuating a few drops between his teeth. Four drops, diluted with an equal portion of water, was put upon his tongue. The effect was astonishing. In about five minutes, he articulated sufficiently well to say, that he felt greatly relieved, and asked for some water; gave him a wine-glassful, which he drank with ease, without producing spasm. Complains of great heat on the tongue, from the medicine. About fifteen minutes after, gave him four drops more, diluted with six tea-spoonsful of water; this he swallowed well; declares himself much better; articulation much improved; can move his under jaw with facility; opens his mouth with freedom, and wider than he has done in three days. In one hour after, gave two drops, diluted with four ounces of water, still swallows well, has had, since taking the acid, but two jerks in the leg, and none in the back and neck; jaws relaxed. He is now able to thrust out his tongue; it is evidently discoloured from the medicine; complains that it feels burnt; it has the appearance of having been seared with a hot iron. Frictions of the acid to the neck, twenty drops in three ounces of water; the neck twice rubbed with this in the course of one hour and a half. The acid has reduced the force, frequency, and hardness of the pulse; or, this may be the effect of the abstraction of the stimulants he had been previously taking—brandy toddy having been allowed ad libitum. 2 o'clock. The muscles of the jaw rather more rigid. The system does not remain long under the influence

of the acid; gave two drops more; it relieved the rigidity of the muscles; he had a nap of about forty-five minutes, very sound; awoke from a slight spasm in the leg, respiration good, sixteen in the minute; before taking the acid, it was laborious, hurried, and anxious; the countenance has lost the extreme anxiety and wildness, which it has had for the last eighteen hours, and is now natural. 4 o'clock. Trismus still less, the spasms in the limb slighter, and less frequent; gave four drops, and repeated it in thirty minutes. After every dose there is an amendment. The one at 2 had enabled him to open his mouth, and thrust out his tongue, which he had not been able to do for half an hour. At half past 4, complained of feeling hungry; gave him half a pint of milk, which he drank, without exciting the slightest convulsion. He soon after drank more milk, and eat some bread crumbled in it. 5 o'clock. Still on the mend, twitchings in the leg less severe and frequent; rigidity of the jaw and neck gone; he can now move his head in any direction. From this time until half past 9, he was perfectly free of all tetanic symptoms; stated that he felt perfectly easy, and considered himself well. A fire broke out in one of the adjoining buildings; about this time he became exceedingly alarmed; great mental agitation; and used much bodily exertion to get away from the scene of danger. He was removed, but in conveying him, the broken leg was violently pushed against a wall, which gave him much pain. The jaws soon after became immoveable, teeth firmly clenched, and spasms upon every exertion. By perseverance, got two drops of the acid, diluted in ʒii. of water into his mouth; it produced immediate relaxation of the muscles. In half an hour, gave him another drop; at half past ten, left him considerably relieved; jaws again relaxed, and able to put out his tongue. He now drank freely of milk. Through the negligence of the attendants, no medicine was given during the night, and by daylight he was again moved. Sunday, 7 o'clock. Had but an indifferent night; spasms have increased, attacked him several times in the chest; gave him five drops of the acid, and directed four every hour. 12 o'clock. Since taking the acid he appears relieved; the rigidity not so great, and articulation more distinct. 5 o'clock. Has been worse during the afternoon; the spasms in the leg very severe and frequent; those of the throat and neck not as much so as early in the morning; directed the leg to be rubbed with the acid and water; he thinks the convulsive action is not so severe or often. A blister was applied just above

the knee, to encircle the whole limb. The system a little excited; pulse full, hard, about ninety; respiration good. Monday, 8 o'clock. Took his medicine during the night; had two evacuations yesterday, was rubbed occasionally during the night; the disease not increased, but rather diminished; swallows well; purulent discharge, which was rather thin and curdled yesterday, has assumed a more healthy appearance; the blister drew well. He thinks himself improved; six drops given, and four to be taken every half hour; milk given as often and as much as he wishes. 12 o'clock. Still better; half past, spasms increased in violence, extending to the back and breast; deglutition still good; has had one evacuation, scanty, and dark; somewhat similar to those produced by bark. 1 o'clock. Spasms still more violent; great rigidity of the muscles of the neck and back; can raise the body by the head; eight drops to be given every half hour. At 4 o'clock, rather improved, deglutition better, pulse reduced by the medicine. 5 o'clock. Rigidity still less; can bend his head forward; twelve drops to be given every half hour, and mercurial frictions, with spirits of sal ammoniac, which occasioned a very free and general perspiration. 7 o'clock. Has had, within the last hour, two copious stools, of a dark tarry matter; has taken, since 5 o'clock, twelve drops every half hour until 6. About half past 7, had a very severe spasm, the thorax much convulsed, respiration spasmodically affected, the sound leg moving very much, but apparently under the influence of the will; moved his arms violently to and fro; from the description given of his feelings, the disease had centred itself on the lungs, producing interruption of respiration. At 8 he attempted to drink some milk, which brought on a similar attack, that lasted about ten minutes, when he expired. All medicines had been omitted.

There is little doubt but that this case would have terminated fatally on Saturday, had its violence not been arrested by the prussic acid. The spasmodic attacks of the chest were of the same nature, and he evinced the same dread of liquids, amounting to actual hydrophobia. The sight of water several times threw him into convulsions, as they would bring it to his bedside.

In the early part of his confinement, his bowels were occasionally costive, and they were relieved by the use of salts, of cream of tartar, jalap, &c. While labouring under tetanus, the bowels were generally free, and when not so, an enema would procure copious evacuations. Should a case of tetanus occur in my practice, I certainly will give the acid an-

other trial. This patient could scarcely be said to have had a fair chance, from the several untoward circumstances that occurred. The dreadful alarm and agitation, and muscular exertion made use of, to remove himself from the fire; his being carried out in a damp, cool night; his being again removed by early dawn, on the ensuing day; his medicine not having been given during the night—these accidents tended to increase the disease, and give it strength. Would it not be adviseable to apply the acid as a lotion, to the wounded surface? If I am correct in the opinion I have formed of that disease, practitioners err in the indiscriminate use of heating, stimulating applications, for the purpose of inducing suppuration. In this case, previous to the use of the acid, I think the spasms in the leg were increased, and the purulent discharge certainly deteriorated by the application of spirits of turpentine. The sedative operation of the acid improved the discharge from the wound.

REVIEWS.

Quidquid venerit obviam, loquamur
Morosa sine cogitatione.—*Martial.*

ART. VIII. *Original Cases, with Dissections and Observations, illustrating the Use of the Stethoscope and Percussion, in the Diagnosis of Diseases of the Chest. Also, Commentaries on the same Subjects, selected and translated from Auenbrugger, Corvisart, Laennec, and others.* By JOHN FORBES, M. D. Physician to the Chichester Dispensary. London, 1824. pp. 302.

THE appearance of a work of this nature affords us considerable gratification. After having tried the value of mediate auscultation and percussion by the test of experience for nearly three years, Dr. Forbes now again comes forward in their defence, and earnestly invites the attention of his professional brethren to the important but difficult topic, of distinguishing, by these means, the obscure diseases of the chest.

Here we must be allowed for a moment to digress, while we inquire, how is it that a discovery, which we have no doubt an unbiassed posterity will rank among the first of this age, and which certainly deserves to form an era in the history of pathological medicine, meets, in this country, with such general contempt or neglect? Is it that, after fair and deliberate deductions, from a careful and continued series of experiments, Mediate Auscultation has been laid aside, from a conviction of its utter inutility? And have we, by patient and persevering investigations, proved the most eminent men in this department of medical science, in our neighbour kingdom, to be nothing better than a trifling set of drivellers,

amusing themselves with a plaything, and wasting their time in pursuit of the mere phantom of a warm imagination? Were this proved to be the fact, then one of our most distinguished professors was perfectly justified in treating publicly this subject with merited contempt. But, that this is by no means the fact, we most strenuously assert; and this we do still more unhesitatingly, because, all of those who, like ourselves, in opposition to the general opinion, or rather prejudice, have treated this subject with that attention which it deserves, and whose opinion we have had an opportunity of learning, join with us in speaking decidedly in its favour. What must we then conclude, but that, in the words of our author—"the impression formerly made upon the minds of the profession by this subject was more lively than profound, and that through the influence of *prejudice*, *theory*, *and indolence*,—one or all—the greatest medical improvement of the age is in danger of sharing the fate of those thousand idle and useless projects, which daily spring up amongst us, and which, after obtaining a temporary notoriety, through the patronage of inexperienced and over zealous individuals, soon sink into merited oblivion?"—*Preface*, p. 8.

For the credit of our profession, we sincerely hope this prediction will never be realized.

Many causes have contributed to retard the adoption of these valuable methods of acquiring, during the life of the patient, a knowledge of the pathological state of the thoracic organs. We can allude to a few of them only. The most important is the neglect or contempt with which they are treated by our public teachers, especially those who, advanced in years, and skilful in the application of other methods, enjoy the highest reputation. Such men unwillingly lay aside the master to become once more the scholar. They underrate the value of what they do not know; and even when they have zeal enough to wish to learn a new art, the organ, upon whose delicacy the accuracy of the observation depends, is commonly already blunted. They are not capable of perceiving those minute differences of sound, which declare the state of the internal parts, and thus doubt that any difference exists, or that it is possible to distinguish them. As well might a person with incipient amaurosis doubt the observations made by the microscope. But even if the organ itself be perfect, these nicer distinctions cannot be recognised without great practice. Let a person, who even boasts of the acuteness of his vision, attempt, for the first time, to make an

observation with a telescope, and he will find that to him it is impossible; yet we all give full credit to the observations of astronomers, because they are confirmed by the calculations founded upon them. But when we find the diagnosis hazarded during life, upon the indications derived from percussion and mediate auscultation, and confirmed by dissection after death, why do we persist in withholding our confidence? Even when the signs are unequivocally perceived, we often fail to draw from them the right conclusion, from not having the advantage of an experienced instructor, and from deficiency of opportunity of self-improvement; for this is an art which books alone cannot teach, any more than surgical treatises can make a dextrous operator. We remember, that it was long after we had been using the stethoscope, before we were confident that the peculiar sounds we heard were *tintement metallique*, or pectoriloquism, although they were familiar to our ears. Likewise, different persons will estimate the same perception differently, as to loudness and extent; but the same difference exists as to our judgment of other symptoms. Let three persons feel a pulse, and, without communication, write down their judgment of its quickness, strength, hardness, and fulness, and it will be found that they rarely agree. Why then can we expect greater coincidence, in the obscure perceptions obtained by the sense of hearing? The confidence of students is also shaken in the diagnostic signs derived from percussion and mediate auscultation, from the rashness and consequent errors of some hasty pretenders, and the doubts and caution of the more skilful; because, say they, if one who has studied these things for years cannot decide, how can we hope ever to find it useful? But it is by doubts that we acquire knowledge and certainty at last.

To return. Our author, in his preface, gives a short but interesting memoir of the celebrated Auenbrugger, the original discoverer of the practice of percussion, as a means of investigating the diseases of the chest, and adduces some ingenious and powerful arguments in favour of this mode of research, as an assistant of mediate auscultation, at the same time offering some excellent cautions to the young practitioner in the use of these means, against placing a too decided reliance at first upon his skill in their employment. He also justly invites the physicians of hospitals to adopt the use of them in their hospital practice, in consideration of the frequency of their opportunities, both as regards cases and *post-mortem* examinations.

In the first part of the volume, he gives us a translation of the original treatise of Auenbrugger upon Percussion of the Thorax, with the commentaries of Corvisart,—a very judicious introduction, both on account of the valuable original matter it contains, relevant to the subject under consideration, and of the scarcity of the work itself. He then introduces a rather compendious extract from the treatise of Laennec, on the subject of mediate auscultation, as applied principally to diseases of the heart. These occupy about a third of the volume, and the rest consists of a number of cases and remarks, illustrative of the use of the stethoscope and percussion, concluding with a translation of a small pamphlet on the some subject, by Dr. Collin, of Paris.

In the short and concise treatise of Auenbrugger, we have much useful, and even valuable information, condensed into a small compass. It evidently bears the stamp of a superior mind, accustomed to close and minute observation at the bedside of the sick,—the true school of medicine. At the same time, if he had been more clear in his style, and more explicit in his observations, the method of the one would have been improved, and the extent of the other better defined. But both these defects have been remedied by the valuable commentaries of Corvisart, annexed to each aphorism, and by the occasional corrections of the translator. It may be interesting to some of our readers to know what was the opinion Corvisart entertained of percussion. The following extract from the work in question, plainly manifests this.

"The morbid sound (elicited by percussion) is observed in acute diseases, either during their progress, or at their termination.

"This consideration ought to lead all medical men to use percussion in acute diseases, as they will thereby be enabled to form a more correct judgment, which, in such cases, is always a matter of difficulty. It has often occurred to me to see cases of acute diseases apparently over, and imposing upon the physician under the mask of intermittent or remittent fevers, and which have eventually ended in a fatal vomica, or scirrhus of the lungs."—*Auenbrugger.*

"In acute peripneumony, or pleuro-peripneumony, the morbid sound is perceptible on the second, third, or fourth day at farthest; the natural resonance of the chest gradually lessens, and is entirely lost by the sixth or seventh day, if the disease is to terminate fatally. On the other hand, it gradually reappears if a recovery takes place. In the more severe

and simpler cases, the common symptoms are less equivocal, but in the more complicated and obscure examples of the same disease—without percussion, how shall we ascertain the state of the lungs, or be able to avoid committing ourselves by unwarranted opinions and false prognostics? In such cases, effusion into the pleura or vomica take place insensibly, and frequently under the deceitful mask of an amendment of symptoms, or even of convalescence. The result, however, soon shows the false security of the practitioner. These grievous mistakes can only be avoided by the employment of percussion."—*Corvisart.*

In that part of the work allotted to the translation from Laennec, we find some useful directions for the application of the stethoscope, together with some cursory observations on the several symptoms of diseases of the lungs and heart, as elicited by this instrument. These, however, as Dr. Forbes candidly acknowledges, "although sufficient to render the subsequent histories intelligible to those of his readers who have not read the work of M. Laennec, are inadequate to direct the practical application of the instrument, or even to convey any just notion of its importance. In order to obtain this knowledge, the work of M. Laennec must be consulted."

In the collection of cases, which more essentially constitute the work of our author, we find a series of extremely useful and interesting facts, while we cannot but admire the degree of candour with which his own defects in judgment or in practice are acknowledged.

To young proficients in the use of the stethoscope, he says, "I would beg to suggest a most important caution in the application of the stethoscope in diseases, or supposed diseases, of the heart. It is, never to overlook the precept of Laennec, not to explore the circulation, unless during the most perfect state of quietude, both bodily and mental, of the patient. '*Il ne faut jamais tiré de conclusions de l'analyse des battemens du cœur, que quand elle a été faite après un repos assez long, si le sujet a fait de l'exercise, ou dans l'état de calme le plus parfait, s'il est attaqué de maladie du cœur.*' "

In the two or three first cases, upon which our author made some of his first experiments with the stethoscope, we are not surprised that he has failed in giving so correct a diagnosis as we find in the subsequent trials. But in the case of contraction of the mitral valve, we have the authority of Laennec himself for considering the indications afforded by this instrument as entirely dubious. He says,—"Depuis que

j'ai commencé mes recherches sur l'auscultation médiate, je n'ai eu que trois fois occasion d'observer l'ossification de la valvule mitrale, à un degré tel qu'elle put rétrécir notablement l'orifice du ventricule gauche et produire le frémissemente cataire ; et ces sujets n'ayant pas succombé, je n'ai pu vérifier le diagnostic par l'autopsie."

Therefore, while we recollect this, and at the same time take into consideration, that the examination made by Dr. Forbes (in the case of Daniells, Case VI.) was very imperfect, we must acknowledge that the failure in diagnosis does not reflect any discredit either on the stethoscope, or on his judgment. For in these cases we think every candid practioner will allow, that if we are obliged to rely entirely on general symptoms, we are nearly entirely left in the dark.

We regret extremely, that, owing to adventitious circumstances, Dr. Forbes was frequently unable to pursue his investigations, in each particular case, with that degree of rigour and exactitude which was necessary to ensure correct results. At the same time, we cannot but admire the candour with which he acknowledges wherever he has been in error. He says on this subject, " At all events, I think it necessary to notice every circumstance in the several cases, as well for my own sake as that of my readers, since I am willing to confess, that in drawing up these papers, I wish rather to be considered as a student than as a teacher, and hope, at least, to derive as much benefit from them as my readers."

The value of the stethoscope cannot be argued so well on any ground as that of fact; and the following case, though perhaps not the most striking on our author's list, exhibits this instrument in a very advantageous light.

" Mr. N—n, æt. forty, almost all his life was subject to the usual symptoms of indigestion, but was tolerably strong till within the last two years. Since this time has been subject to dyspnœa, and palpitation, increased on going up an ascent, and accompanied with a sense of fulness and oppression in the region of the heart. There is evidently a swelling in the præcordia, with very distinct hardness, answering to the left lobe of the liver enlarged. There is here also tenderness on pressure. The urine is at present scanty and high coloured. The uneasy symptoms about the heart are greatly increased by mental emotions.

" On *percussion*, the chest sounds well every where except in the region of the heart, where the sound is very dull over a considerable space. There is, however, no tenderness in this point."

The stethoscope was not applied at first, but relief was temporarily obtained, from the most distressing symptoms, by the abstraction of blood, and by the exhibition of alteratives and aperients. On the first application of the stethoscope, the following were the results.

"*Respiration.*—Sound quite wanting on the left side, below the third or fourth rib, on the anterior part of the chest; very distinct, approaching to puerile, over the rest of this side; over all the right side very distinct.

"*Heart's action.*—Sound of the contractions very loud over all the space in which there is no respiration; very distinct also, but not very loud, over all the rest of the left side; very indistinct over both sides of the back, and on the anterior part of the right side of the chest; pulse 108."

From this assemblage of symptoms, Dr. Forbes deduced the following diagnosis. "Dilatation of the heart very considerable, principally of the right ventricle, with moderate hypertrophia; lungs sound." After this, though, by the use of remedies, he was for a time relieved, yet the symptoms returned in an aggravated form, and the next application of mediate auscultation gave the following symptoms.

"*Impulse* of the *heart* considerably greater than natural; *sound* proportioned to the impulse; loud in the cardiac region, moderate over the anterior part of the chest; great pulsation of the carotids; *respiration*, inaudible over a large space in the cardiac region; puerile over the greater part of the left side, but not at all audible over the extent of a hand's breadth along the under edge of the right clavicle, except by means of a slight piping sound at the termination of each expiration. Diagnosis.—Dilatation, with hypertrophia of the heart, especially of the right side; hepatization of the superior lobe of the right lung."

This patient lingered on for three months, and at the inspection of the body after death, Dr. Forbes read to the gentlemen assisting him, the following signs, which he expected to find corrected upon reflection, from the diagnosis, founded upon the last stethoscopic examination.

"Hypertrophia, with dilatation of the heart, especially of the right side, both in a moderate degree. Hydrops pericardii? Pleuritic inflammation, and serous effusion of the left side?"

These two last symptoms he suspected, but was not confident of. The dissection was as follows.

"On removing the sternum and cartilaginous ends of the ribs, the lungs were not at all visible, the whole exposed space

being occupied by the pericardium, prominent, and distended with fluid. On opening the sac, it was found to contain upwards of a quart of sero-purulent fluid. The whole internal surface of the pericardium was covered with a layer of a white and albuminous-like substance, answering exactly to the description given by Corvisart, of the state of the parts in pericarditis. The heart was in size more than one third, probably one half, larger than natural; the parietes of at least the natural thickness, and those of the left ventricle more than double those of the right. All the valves and outlets were in a sound state. The lungs were adhering in many parts on both sides, and on the left side, there was about a quart of sero-purulent fluid. The pleura, on the lower part of this side, was coated with a layer of coagulated lymph."

Here we find a diagnosis, in a most intricate and perplexing disease, almost literally verified by the autopsy; and indeed we agree with Dr. Forbes, that the doubts which he expressed on any part of his diagnosis were without foundation. Though Laennec gives us no stethoscopic indications of the dropsy of the pericardium, yet, from the concomitant results of the examination of the respiration and the action of the heart, assisted by the general symptoms, we think the indications might be very fairly and plainly deduced. But we perfectly agree with our author, both from our own experience, and from the testimony of others, that, until the ear has gone through a sufficiently long education in the use of mediate auscultation, it is difficult, or even impossible, to give a decided and correct opinion upon its results; and this particularly in diseases of the heart.

But much as we respect and admire Dr. Forbes's abilities, and favour the subject which he advocates, we must confess that, in one or two instances, his favourite theory appears too much to have led him away; particularly in the case of Thomas Ide, No. XIV. Here was a case, in our humble opinion, consisting merely of spasmodic angina, from the digestive system not being in proper tone; where the symptoms indicated by mediate auscultation, both in the lungs and in the heart, were natural; and where the principal feature of his complaint, besides the dispnœa, was flatus in the intestines, which, being discharged, relief to the asthmatic symptoms always followed. Now, these being the principal circumstances in the case, as given by our author, we humbly conceive, that there is no necessity to suppose a diseased, or even attenuated state of the heart, to account for them. But when, after the exhibition of two mild aperient pills, the greater part of the symptoms were removed, and the patient

returned to his usual occupations, after a fortnight's rest, with only occasional attacks of palpitations, and those very much slighter than before,—when, we say, after this we find the Doctor still adhering to his text, that he had been treating a case of diseased heart, we confess we are rather surprised. However, in the next case, which is very similar, he acknowledges that the altered action of the heart was sympathetic with the derangement of the digestive organs.

In aneurism of the aorta, we have, as yet, been able to derive no assistance from the stethoscope or percussion, as both Corvisart and Laennec acknowledge.

In hydrothorax, our author has detailed several interesting cases.

"John Luffe, æt. 66, affected a year and a half with dyspnœa, greatly increased by motion of any kind, also with a frequent cough, attended with a good deal of expectoration. During the last two months, his lower extremities have been œdematous, and he is now considerably anasarcous over the whole body. Since the appearance of the œdema, the urine has been scanty and sedimentous. He is now in bed, and lies with his head *quite low*, in which posture he says he is most easy. He can lie almost indifferently on either side, and sleeps soundly. Pulse irregular, full, and oppressed. He has no pain.

"The stethoscope gives puerile respiration over all the right side, but detects no respiration whatever on the left. Percussion gives similar results, eliciting a distinct clear sound from the right side, and a dull fleshy sound from the left.

"Diagnosis.—*Hydrothorax of the left side.*

"This man died suddenly, four days after the examination. The body was not allowed to be inspected, but permission was granted to tap the chest. This was accordingly done, and from the left side, three or four pints of serum issued, while from the right, not a drop of fluid was discharged."

Now, in this case, our opinion perfectly coincides with that of Dr. Forbes, that though, from the general symptoms, we might decide upon the nature of the disease, and even that not with any confidence, without the aid of mediate auscultation, no person would have ventured to pronounce, that the one side was full of water, and the other contained not any. He here also remarks, with propriety, that "the common signs, drawn from the facility and comfort of assuming particular postures, were here either entirely wanting, or the reverse of

those generally received. Now, this being the case, if we wished to evacuate the fluid which we suspected to be in the chest, what means have we to direct on which side to operate, so valuable as the stethoscope?

With regard to the paracentesis of the thorax, our author thinks, with Laennec, that it is too much dreaded by practitioners generally.

"In hydrothorax depending upon visceral disease, the benefit can, at best, be only temporary, while the risk is considerable. In empyema from chronic pleurisy, the existence of adhesions, compressing and binding down the lung, will not only render the operation nugatory, but remove almost the only chance left of recovery. But in a case uncomplicated with any organic disease, or any very considerable degree of inflammation of the pleura, where it is of recent occurrence, and where the effusion is, in all probability, pure serum, and existing in great quantity, I think, in such a case, there is every reason for anticipating a happy result from the operation."

In anasarca of the lungs, it is confessed by Laennec himself, that the stethoscope affords us only partial assistance, at least as far as his investigations had hitherto gone. Our author adduces a case, in which he notices, that although this instrument detected the presence of water in the *cavity of the chest*, yet the sound of the respiration was dull and indistinct, a coincidence which he had never before witnessed; in effusion into the chest, the respiration generally sounding unusually loud (puerile). Upon examination after death, the lungs were found in an anasarcous state. Upon this ground he institutes this query—May not this absence of puerile respiration, in cases where the presence of a considerable portion of water in the cavity of the chest is detected, be the pathognomonic symptoms of anasarca of the lungs? We wish that this might prove an additional light upon this obscure subject; but we much doubt, if, in cases of degeneration of the substance of the lungs, analogous symptoms would not be produced of chronic pleurisy. Laennec gives, as the principal distinctive mark, a symptom which he denominates Hægophonism, which is a variety of pectoriloquism, of which, in the present volume, we have two instances, though Dr. Forbes seems not yet to have acquired the precise application of this symptom, the definition of which, by Laennec, is indeed sufficiently obscure. "L'egophonie ressemble à la pectoriloquie, en ce qu'elle consiste aussi en une forte résonnance de la voix sous le cylindre.—La voix, plus aigue plus aigre que celle du ma-

lade, et en quelque sorte argentine, produit seulement une illusion telle qu'il semble que quelqu'un parle dans la poitrine du malade. Elle a, d'ailleurs, un caractère constant d'où j'ai cru devoir tirer le nom de ce phénomène : elle est en quelque sorte tremblotante et saccadée comme celle d'une chèvre." This symptom is, according to Laennec, far less formidable than the true pectoriloquism, as by far the greater part of the patients in whom he observed it, recovered.

In the case of J. S. (Case, No. XXVIII.) we have a striking instance of the accuracy with which, by careful investigation with the stethoscope, we may trace and follow in its progress, that obscure and treacherous disease, chronic pleurisy, which so repeatedly deceives us in the use of the ordinary diagnostic means. Our limits will not allow of the transcription of the whole case, which is detailed at considerable length; we will, however, for the satisfaction of our readers, give the several diagnosis, formed at the time of each investigation by the stethoscope, and compare them with the results of the *post-mortem* examination.

" J. S.—December, 1822.—Pleurisy of right side, with copious effusion.

" March, 1823.—Pleuritic effusion of right side still great, but diminished.

" April.—Same results ; no increased absorption of fluid, but rather the contrary.

" June.—Attack of pleurisy of the right side, with considerable effusion and compression of the lung, but less than on the right side ; absorption of part of the fluid on the right chest.

" July.—Considerable absorption of fluid on both sides, but still a good deal on the inferior parts of both ; probably adhesion has taken place over the greater part of the right side, between the lungs and pleura costalis, except on the inferior lobe.

" September.—Has had a fresh attack of inflammation, I think peripneumony, and also a fresh pleurisy of the left side ; left lung thickened, and partially hepatized. Absorption of fluid of right side goes on, and adhesion of upper lobes increased."

From these several results, Dr. Forbes collects the following view of the state to be expected after death.

" Serous or sero-purulent effusion in both sides, most on the left, but on the right thickest. Adhesion of the lungs to the pleura, wherever there is no effusion ; *e. g.* the greater

part of the right lung, and the upper lobe of the left probably. Carnification of both lungs, in different points and degrees; hepatization of outer part of the right superior lobe, also of the left. False membranes and cheesy crusts on different parts of the pleura."

These anticipated results were almost literally verified by the dissection,—almost the only defect being the absence of fluid in the lower part of the right cavity of the chest, instead of which, the whole surface of the lung was adhering, throughout, to the *pleura costalis*. This error, Dr. Forbes candidly acknowledges, arose more from the fault of the observer, than of the diagnostic means; since he attributed the absence of respiratory sound, in the lower part of the right side, to the presence of water, which was, in fact, owing merely to the natural encroachment of the liver.

Dr. Forbes concludes his volume with a condensed translation of a modern essay on the physical diagnostics of diseases of the chest, by Dr. Collin of Paris. This is nothing more than a summary of the doctrines of Auenbrugger, Corvisart, Laennec, and Landré Beauvais, on succussion, percussion, mensuration, and mediate auscultation. We think our author would have much better swelled the size of his work with those cases which he has "suppressed for fear of making it too voluminous," but with which, we hope, at some future time, he will favour the public.

We cannot dismiss this subject without once more strongly recommending Dr. Forbes's work to the perusal of our readers. We feel convinced that it is capable of affording them essential assistance in the prosecution of their pathological studies, as well as in their practical diagnosis.*

* From the Edinburgh Medical and Surgical Journal, 1825.

ART. IX. *Practical Observations on Hydrocele: with a view to recommend a New Mode of Operating for that disease, which is exempt from the inconveniencies that have been found to attend all the other operations; and at the same time more simple, and equally certain of producing a cure. Illustrated with Cases. To which are added, some Practical Observations on Bronchocele, and on Inflammation of the Mamma: accompanied with a Table containing upwards of one hundred cases of Bronchocele, treated at the Monmouth General Dispensary.*—By JAMES HOLBROOK, Member of the Royal College of Surgeons in London, Surgeon in the Royal Navy, and Surgeon to the Monmouth General Dispensary.

HYDROCELE sometimes arises from the venereal disease: a sailor had an inveterate chancre; in three or four days after it appeared, the nightmare assailed him: it went off as soon as the mercury affected his system; "but the chancre was healed with difficulty: at length he left off the mercury, and considered himself cured.

"In about three months afterwards, he felt a pain in the end of his elbow, which was very sore and tender to the touch, and he could not well move it. His throat next became affected, and a node appeared on the right shin, from which he suffered severely at night. He was now advised to rub in the ung. hydr. fort. every night and morning; which he did, and when his mouth became affected his pains subsided. By a continuance of it his throat also got well, and he thought himself again cured.

"Between this time and 1812 he had two similar attacks, and got relieved in the same way, by a partial course of mercury. About the middle of 1814, he became defective in the ability of sexual connexion, for which he was unable to assign any cause, but which gradually increased, though he was not at all times deprived of the power." Swelling of the testicles, a node on the tibia, hydrocele of the left tunica vaginalis and integuments of the penis, appeared in succession; a complete soreness of the mouth by mercury relieved all these complaints: weakness of the digestive organs and alimentary canal, particularly of the rectum, produces irritation in the rectum and urethra; and more particularly, according to Mr. Holbrook, a thickening in the inner coat of the rectum induces irritation in the latter canal, and swelling of the testicle: morbid accumulations in the lower bowels will produce

disease in the urethra: fistula of the rectum does also; and Mr. Holbrook gives a case to prove it: the cure of the fistula removed the disease of the bladder. He then speaks of the different modes of operation for hydrocele: 1. *Incision*—formidable; severe. 2. *Tent*—the inflammation which it produces often is only partial, therefore it is not effectual. 3. *Caustic*—severe and tedious. 4. *Seton*—the best plan. 5. *Injection*—it is to be objected to, because it is difficult to adjust the strength of the injection to the excitability of the subject; the operation is sometimes dangerous also, from the slipping of the canula.

He then proposes his own; which consists of the introduction of a seton of the size of a common ligature used for tying arteries, for adults, and a single silk thread in children; it is removed at the end of the fourth day. The opening may be made with a lancet at the most dependent point of the scrotum, a probe introduced and passed to the top of the scrotum, cut out, and then the ligature is passed through the tunica vaginalis. It cures the hydrocele with little pain in a short time.

On Bronchocele.—Wearing neck handkerchiefs cured a boy in Mr. Holbrook's experience. It was tried on others, and with good effect. Though some other measures were used in these cases, Mr. Holbrook is disposed to attribute the effect to the pressure. The crying and weeping of infants he considers to produce it frequently, as also straining in labour: because it occurs often in these subjects. Bleeding, digitalis, and the burnt sponge, he found generally successful. The blood-letting should be used cautiously. After many trials, the burnt sponge he considers the best remedy extant: he thinks that it operates by producing a general emaciation, which mercury also sometimes does. He relates a case of abscess over the gland, seated in the cellular membrane, which cured the goitre, an argument in favour of the use of the seton, which may therefore be introduced through the cellular membrane only.

On Inflammation of the Mamma.—Some women have their nipples depressed by the pressure of their clothes: suckling then cracks and produces ulcers on them. "The most useful application which I have tried is the bals. peruv. mixed with any simple ointment, applied to the part two or three times a day, at the same time defending the nipple from the pressure and irritation of the clothes by means of a little cup made of wax, or a proper glass; and with this attention the part is in general healed. When the cracks appear disposed to fill up, touching them gently with the argent. nitrat. has a

good effect; and to the little ulcerations, the application of a solution of the argent. nitrat. is often of great service, in changing their action, and disposing them to heal: but while the child continues to irritate the nipple by sucking, it will frequently be almost impossible to heal it. In such cases, the artificial teat should always be used.

"As it sometimes happens that inflammation of the mamma is preceded or ushered in by febrile symptoms, attended by rigours, pain in the head and back, thirst, and quick, full pulse,—in which case there seems to be indicated a considerable inflammatory state of the system,—I deem it advisable to commence the treatment by taking away a quantity of blood, in proportion to the urgency of the symptoms, followed by an active aperient of calomel, and infusion of senna with salts; and desire the patient to remain in bed, to have the breast suspended by a proper bandage, and the milk gently drawn from it occasionally, to diminish tension and relieve the vessels: subsequently to which, I direct a nurse to rub the whole mamma, constantly and gently, with the flat of three fingers, moistened with a little warm olive oil, for half an hour, which seldom fails to relieve the tension, and must be repeated as often as it returns. If, after this treatment, the fever and pain still continues on the following day, and the inflammation unabated, I direct ten or twelve leeches to be applied to the part, three or four near the nipple, and the remainder round the base of the breast, and encourage the bleeding by fomenting with warm water.

"The leeches, applied in this way, do not interfere with the diligent use of the friction: in addition to which treatment, I give internally a mixture composed of infus. rosæ, magnes. sulph. and liq. antim. tart. In general, by this plan, on the third day the inflammation begins to subside; but if, however, that effect should not so soon appear to be taking place, I persevere in the same treatment as long as no decided symptom of suppuration makes its appearance, by diligently employing the friction, and repeating the leeches as often as circumstances seem to indicate its being necessary: taking care to procure, by the use of the mixture above stated, at least four watery evacuations in twenty-four hours, and keeping the patient on an abstemious diet, corresponding to the state of the system.

"This treatment will, in general, succeed in overcoming the inflammation in four or five days; but the friction should be continued until every appearance of fulness and hardness is entirely removed, and the breast regularly and gently drawn:

the suspensory bandage should also not be left off. The bowels must be attended to, so that at least two evacuations are procured every day by the same mixture, with the acid. sulph. dilut., in lieu of the liq. antim. tart."

If suppuration takes place, poultices become necessary. The abscess should not be opened by the lancet, but allowed to break of itself. The discharge is then purulent, attended with the separation of a slough: the sinuses must be laid open. Friction should be used to relieve the indurations. This plan of Mr. Holbrook, who appears to be a very candid and ingenious man, we should think, from the irritation produced by friction, would be dangerous; he speaks from experiment. A blister, as in pleurisy, preceded by local and general bleeding, we should think, would be better. He thinks that this plan has a decided advantage over cold applications, and that the danger of their use is avoided.

"In some cases of inflammation of the gland, the inflammation appears to extend along the tubuli lactiferi, in which cases so much pain is occasioned in having the breast drawn, that it is quite insupportable. Here, in addition to the friction, warm emollient fomentations should be frequently used; and, in order to combine their effects, a fomentation composed of a weak solution of mild soap, in warm soft water, will answer the purpose with great advantage, as its saponaceous quality affords great facility to the employment of the friction, which, in this way, can be used at the time of fomenting.

"When, in these cases, suppuration takes place notwithstanding our exertions, or if we are called in too late, one or more of the tubuli lactiferi frequently burst into the abscess; in which cases milk will be discharged with the matter: and I have sometimes known it occasion a longer time in healing the wound, as the milk would continue to be discharged that way for some time, and appear to be the only cause of retarding the healing process."

ART. X. *Remarks on Irritative Fever, commonly called the Plymouth Dock-yard Disease; with Mr. Dryden's detailed Account of the Fatal Cases, including that of the lamented surgeon, Dr. Bell; dedicated, with permission, to Commissioner Shield*, by JOHN BUTTER, M. D., F. R. S., F. L. S. & W. S.

THE gazettes announced last year some severe cases of disease from accidental wounds, which were attributed to some poison taken from the teak wood, which is not now believed: as it appears from the register of the weather, that it differed little from common years, it was not attributed to the air. The causes appear to be enveloped in obscurity. The following letters from Mr. Abernethy and Astley Cooper, on wounds in dissection, will be read with interest.

"Spring Gardens, London, 2d March, 1825.

"Dear Sir,

"1. I have given Anatomical Demonstration since 1788, and Anatomical Lectures since 1791.

"2. I have very frequently seen fever arise from slight wounds in dissection.

"3. I am of opinion, that generally the symptoms arise from irritative fever, without absorption of morbific matter; but I have seen two cases in which they clearly arose from the absorption of a poison.

"4. Death has often been the result of these injuries, but most frequently from the irritative fever, which arises with little local irritation.

"5. I have only once severely suffered from a wound in dissection, and then it was the result of a wound upon my thumb in dissecting a person who had been executed the day before. The symptoms were pain in the part, with swelling —inflamed absorbents—enlarged absorbent glands in the axilla—a continued sore throat—an inflammation, first in my left knee, and after a few days in the right. Medicine did not cure me, but I recovered by going into the country.

"6. My plan of prevention has been to put the point of a lancet into a punctured wound to make it incised. I sometimes touch the surface, after making the incision, with lunar caustic (*argentum nitratum*), to destroy the vitality of the wounded surface. The correct *general* treatment is to give submur. hyd. cum opio et pulv. antimonalis; liquor ammoniæ acet. cum magnes. sulphat.—The *local*, to apply

leeches, fomentations, and poultices.—Gravitation of the blood from the part by posture should be avoided—rest allowed when required.—Abstinence from all stimulants is essential, for all stimulants do harm.

"7. Local blood-letting has been highly useful from the application of from twenty to thirty leeches.

"8. I have repeatedly known persons die, and more frequently others have violent symptoms, and the persons have recovered from punctures by buckles, forks, broken shells or bones, from scissors, penknives, skewers, when the wound has been punctured or lacerated, most frequently the former.

"I am, dear sir, yours, truly,

"ASTLEY COOPER.

"Dr. BUTTER."

"Bedford-Row, London, 2d April, 1825.

"Dear Sir,

"I have known numerous cases of mechanical injuries causing very severe disturbance of the system, and even death, in consequence of the morbid pre-dispositions of the party affected.

"Even pricks from clean sewing needles have occasioned peculiar inflammation of the absorbing vessels, and consequent violent febrile action and nervous irritation.

"I remember a young lady, residing in the house of a medical man, who, some days after having pricked her finger, had irritation commencing in the wounded part, transmitted along the absorbents to the axilla, which was accompanied with great acceleration of the pulse, alienation of mind, and convulsions, so that her life was despaired of. The pulp of bread poultice was applied to the inflamed parts, the bowels were cleared and kept gently lax. Alterative doses of calomel and blue pill, effervescing saline draughts, and infus. menth. sulphuric. were the only medicines employed.

"The inflammation and general disturbance subsided, and in a week the patient seemed to be well; but three days afterwards, the bowels becoming disordered, inflammation in the absorbents recurred, and the constitution was again disturbed in the same manner, though in a less degree. This second attack was soon tranquillized by the same measures which had been adopted on the former occasion.

"I have no doubt that *general irritability* is the predisponent cause of inflammation in the absorbent vessels, and that it gives a character to the inflammation which takes place.

"That the inflammation induced is of a peculiar character, and excites a correspondent disturbance of the system in general, may be inferred from our often meeting with cases of inflammation of the absorbing vessels and their glands, in which the general health is not affected in the same manner as in these peculiar cases.

"That the inflammation induced in these cases of the kind which I term irritative, and capable of exciting the same disease in contiguous parts, is observable in various instances.

"I knew a gentleman who, having grazed his heel, irritated the tender surface by travelling all night in his boots, and produced inflammation and sloughing of the injured part, with inflammation of the absorbents on the back of the leg as high as the ham, and on the groin, causing also swelling and tenderness of the inguinal glands. Large patches of mortification took place on the inflamed skin on the back of the leg, and on the inner part of it, extending even above the knee, and the patient died.

"This young man was disordered in his stomach and bowels before he undertook the journey, and afterwards, when the inflammation occurred, had violent fever, restlessness, wandering, delirium, and subsultus of the muscles.

"I have also known several cases of slight mechanical injuries, such as I am convinced would not have produced the same effects in other persons, occasioning suppuration, ulceration, sloughing, and abscesses, in contiguous parts, attended with great disturbance of the functions of the sanguiferous and nervous systems, and of the chylopoietic viscera.

"With respect to the wounds made in dissection, we are warranted to suppose that the matter applied is stimulating, because it often produces fretful sores, and because we know that the absorption of animal matter, in a state of putrefaction, produces a most pestilential fever. Yet very rarely do we find that the matter applied acts as a morbific poison, contaminating the system, and inducing remote morbid affections, as it does in the cases of transplantation of teeth, sucking of children, &c.

"Therefore I am led to conclude, that the effects of these wounds also very much depend upon the morbid pre-dispositions of the party affected.

"I do not think there is reason to believe, in general, that the animal matter which may be on the instrument inflicting the wound, acts as a morbific poison.

"Though I have had inflammation of the absorbents, shivering, and fever, perhaps a hundred times, I never had pe-

culiar disease locally or generally, but once. Yet I think there is reason to believe, that putrid matter produces a more than ordinary degree of fever in such cases. I have seen numbers of instances in which the local irritation, occasioned by the wound, affected the sinewy parts of the finger; and numbers, where these were unaffected, and the disease seemed only to extend through the medium of the nerves and absorbents. When much nervous irritation and febrile affection is induced, it increases all the morbid propensities of the system, and rouses into a state of activity, dormant local affections, which, re-acting upon the health in general, aggravate the malady.

"Thus I have known persons die after such illness, apparently from affections of the bowels, brain, and lungs.

"With respect to blood-letting, I may add, that I do not think we are warranted to bleed in cases of irritative inflammation and fever, because these maladies are indicative of weakness, and likely to induce as a consequence a greatly augmented debility.

"I have thus, my dear sir, put together what, I believe, I told you before, and what I have been accustomed to say on these subjects in my lectures.

"I have endeavoured to be brief, and perhaps it may be thought '*brevis esse laboro obscurus fio.*'

"I am, dear Sir,

"Your's, very sincerely,

"JOHN ABERNETHY.

"Dr. BUTTER."

From the circumstance of a pond being in the neighbourhood, near which, the preceding year, there prevailed an erysipelas, there can be no doubt, that the wounds produced the irritation, a typhous susceptibility being previously induced by miasmata, which developed the disease.

Symptoms.—Local pain, inflammation round the wound, and up the limb; chills, faintness, and general disorder on the attack; headach, nausea and thirst in the first days, as the wound advanced to suppuration: pulse not hard but compressible: great prostration of strength, anxiety, and nausea. Fainting frequently, particularly through the night. Erysipelas sometimes appeared and spread over the limb; hiccups, cold extremities, pulse scarcely perceptible; death. The wounds discharged pus and membranous sloughs after opening them, which was done with the lancet. The general fea-

tures and treatment of the malady are summed up in the following heads :

"*First*—That the constitutions of these men had been rendered unusually susceptible of irritation at this time.

" *Secondly*—That diet, air, their occupations, and other circumstances, influencing animal health, had collectively operated in creating this morbid propensity.

" *Thirdly*—That the addition of an external injury, to a susceptible habit of body, formed the disease.

" *Fourthly*—That any kind of local excitement sufficed.

" *Fifthly*—That the local injuries would have proved inadequate to the causation of this disease, in persons not pre-disposed to excitement.

" *Sixthly*—That the disease was not confined to the artificers of the Royal Naval Yard at Devonport, as erroneously supposed ; but was recognized, in detached instances, amongst other people in the neighbourhood.

" *Seventhly*—That the disease was the traumatic erysipelas of some, and the irritative inflammation of other authors.

" *Eighthly*—That its leading character was a tendency to spread, to form sloughs, or unhealthy fluids, and to leap from part to part.

" *Ninthly*—That bleeding, and other depletory measures, proved inadequate to the cure of this disease.

" *Tenthly*—That two cases of recovery arose probably from the restoration of healthy secretions, and the third from the removal of tension by incision.

" *Eleventhly*—Experience has shown that the object should be, to invite and keep the disease to the surface by local measures.

" *Twelfthly*—That the general treatment ought to be calculated to invigorate and strengthen the constitution, with the view of expelling the aggressions of disease towards the interior."

The following facts may be interesting to the Subscribers to this Journal.

" Ammonia has been recommended in cases of erysipelas and erythema, by Peart and others ; and also by Dr. Ranken, in ʒi. doses every ten minutes, against the bite of the Cobra di Capello.

" Fontana also proposed ammonia, with other stimulants, against the bite of the viper.

" Eau de luce was applied externally, and large potions of Madeira wine (two bottles) given internally to an Indian, who

had been bitten by a Cobra di Capello. The man recovered under this "*heroic remedy*."

"Sir Everard Home also trusted to ammonia, æther, and camphor, in the treatment of the man, who was bitten by a rattlesnake."

Simple whiskey, given in the dose of a wine-glass full every hour, has cured the bite of a rattlesnake; the pulse, which was weak, was kept up by the stimulus, and the patient recovered. The editor of this Journal has treated punctured wounds by the application of a small blister over them: the constitutional pains subside immediately after the blister draws.

ART. XI. *New England Journal of Medicine and Surgery*, for April, 1825. No. II. Vol. XIV.

DR. CALVIN THOMAS gives the history of a tumour, which shows the close resemblance, and the difficulty of discrimination between fungus hematodes, and osteao-sarcoma, as long as the skin is unbroken.

Dr. Samuel B. Woodward states, that, in consequence of an injury upon the head, in a young woman, aged about eighteen years, many irregular symptoms, costiveness for thirty-eight days at one period, and sixty-five at another, and again, for a hundred and thirty-eight days;—retention of her urine for fifteen or twenty, and even thirty days in succession supervened: these extraordinary retentive powers in the bowels at least are explained by the circumstance, that she had taken, for a vomiting, and inverted peristaltic motion of the alimentary canal, large doses of opium; for the "first evacuation from the bowels after this long period, consisted almost exclusively of *opium pills*, many dozens of which were in a state of perfect preservation, and without apparent loss of weight." She gradually recovered. Delirium, double consciousness also attended this remarkable case: several of the most respectable physicians of New-England visited her.

"E. G., aged twenty-two years, at the age of nine years, while at play with her mates, fell from a chamber window, and wounded her head; the wound healed readily, without surgical aid, and little was thought of it at the time. From that time forward, she was subject to turns of severe

nervous headach, which always affected *that part* of the head most severely; and even after the fall, a tenderness was felt on the part that was wounded.

"In the spring of 1821, the headach became more severe, and recurred more frequently than before, and she had occasional epileptic paroxysms, which continued to recur at unequal intervals through the winter; at times, her mind was also deranged; these, however, alternating with lucid intervals." The operation of trepan was proposed, but not permitted: the epileptic paroxysms were frequent; she gradually lost the sight of her left eye; the jaw became locked; and she had great pain and suppuration in one ear.

"An inflammation now commenced in the throat, which progressed rapidly, impeding both respiration and deglutition, and seemed to threaten a speedy termination of all suffering. This tumour could not be seen on account of the locked jaw. It terminated in suppuration, and when it broke, it discharged pus freely, and some foreign substance passed down the œsophagus, and lodged there, producing severe distress, convulsions and insensibility, in which state she remained a long time; when she recovered from it, she declared herself relieved, and said something had been swallowed; her friends were directed to examine the alvine discharges carefully, and in about forty-eight hours, a *comb tooth*, two inches long, and very large, passed her bowels. From this time, all her bad symptoms diminished; convulsions ceased wholly; delirium subsided; her health improved; the eye became better, and in a few months was restored; the pain and suppuration left the ear. The jaw was at once loosened, but it required a long time to regain its power. Her appetite and strength gradually returned, and, in the course of a few months, her health was restored."

"It is certain it remained in the body thirteen years, but with what parts it was in immediate contact during that time is to me matter of conjecture only."

Dr. Channing on a species of premature labour. The Doctor, who is a professor in one of the northern medical schools, has given, in this paper, an abstract of a paper on a peculiar kind of abortion, from the Dublin Transactions, for which see the Medical Recorder of 1824. The following valuable remarks are extracted by the reviewer from this paper:

"I have met with cases in which the predisposition to premature labour existed in a remarkable degree, and where it

did not seem at all to depend on the cause just spoken of. At least it was removed, or disappeared under a course of treatment, which does not ordinarily remove a venereal taint. In one of these cases, a foreign voyage, and residence abroad, produced changes so beneficial, that the usual period of pregnancy was attained, and healthy children born. This female was much exhausted by repeated premature labours, following each other with great rapidity. In another case, the mother seemed very healthy, and did not lose her health by miscarriage. She carried the fœtus eight months, in some of the cases. The children, when born, were of standard dimensions, and had the appearance of being well nourished. They were not born alive. This patient carried her eighth child to the full time. It was born alive, and lived. The mother died afterwards, without being again pregnant.

"There is a species of abortion which has received more attention than the above, which is equally unmanageable, and sometimes fatal in its consequence. It occurs in the early months, about the time for the third appearance of the catamenia, had not this function been suspended by conception. Boerhaave, Saccombe, and especially Dr. William Hunter, have described this species. Saccombe supposes it to be owing to the occurrence of conception very soon, or immediately after a catamenial period is over." "Out of ten cases noticed particularly by Boerhaave, nine happened at the period. It is supported by the practice which has been found most successful in these cases. This has been small bleedings in the first, second, and third months, once or more. The determination to the womb, has, in many cases, been prevented by this course, and the fœtus carried to the full time.

"Blood-letting in these cases will not always succeed. I have distinctly in recollection one case, in which it was practised, where numerous abortions had been suffered. In the last attempt, it seemed to promise a favourable issue. The fœtus was carried to the fifth month. Great irritability, however, was manifested in the system for much of the time. It increased with the progress of pregnancy; convulsions at length occurred, and were fatal. In this case pregnancy was positively a disease. It had cured itself, to be sure, by the process of abortion. But under this the system was sinking, and it was a sound practice which attempted to prevent farther exhaustion, by preventing abortion. In this case it should have been mentioned that hemorrhage, to an extreme degree, attended labour, whether premature or otherwise. The patient had, in some instances, carried the child the full

time. Her system had been disturbed originally by the frequency with which this had been the case.

"There is another species of abortion, if a single case may make a species. It is believed it is not of infrequent occurrence. The individuals who furnish these cases, are married late in life; have been luxurious livers; and have habitually used but little active exercise. They have good health: are fleshy, if not plethoric. I have observed the following to occur in such a case. The individual is between thirty and forty before marriage. Becomes pregnant. In a few weeks after, and without apparent cause, is seized with a slight discharge of blood from the uterus, then with trifling pains, which gradually become stronger, and at length the ovum is thrown off. This occurs at first about the second month. Another pregnancy takes place, and the fœtus is carried rather longer, and is then expelled. The third may remain in utero through the third month or longer, and afterwards the fœtuses go to the full time. I have known three abortions to occur after this manner, and then four successive pregnancies to go on without disturbance, and living children born. This species differs from the last in this; that the succeeding pregnancies advance farther and farther, and this too where no special means are employed. And in these individuals the general health remains good. We might, in such cases, look for abortion to become habitual. It is not so. Pregnancy advances farther and farther, as was said, in the succeeding cases, as if the uterus acquired new powers of continuing the function, by having already sustained it. I have met with but one distinct case of this kind, and it may be that this belongs to that variety of the writer in the Transactions, in which the general health is too good for healthy pregnancy."

The next case, by Dr. Cheney, is a very interesting one: Mrs. C. hurt herself severely by a fall, in about the eighth month of her pregnancy; hemorrhage followed; she became faint, cold, and looked ghastly: she lingered for a few days; internal hemorrhage was suspected; she gradually sunk, and died upon the 21st day after Dr. Cheney was called in. The rupture of the uterus took place without pain, he supposes before he was called in: the fundus, on examination, was the part lacerated. He goes on to relate a case of violent convulsions, from eating a cucumber, which had been taken whole, soon before going to bed: it was epileptic, followed by stupor; V. S. and an emetic of sulphate of zinc was administered. Another fit followed; an emetic with a purgative was given; the patient had great pain in his head; dark

stools, and uneasiness at the stomach; some spirits of turpentine were given him; the fit returned, and he never recovered from it. The body was not opened.

Another case of the same disease is related, in which the patient was affected with convulsions like tetanus; the eyes turned up, only showing the whites; great restlessness and terror during the intervals; starting up and staring round him with a mixture in his expression of wildness and terror; legs cold, body hot, and covered with sweat.

"During the first six days, he had several convulsions in the course of every twenty-four hours, most commonly in the beginning of the forenoon, and the latter part of the afternoon, though occasionally excited by any unusual occurrence. During the night he generally rested tolerably well, and sometimes slept a little in the course of the day. The hearing was morbidly acute, and the eyes were painfully sensible to the light; the latter did not wholly lose the peculiar expression before mentioned, until after the convulsions had finally left him. The head was rather more hot than natural, but the rest of the surface varied but little from its usual temperature or degree of moisture."

"The characteristics of the complaint in each case seemed to be, great irritability of the nervous system, and disorder of the stomach and bowels, the former circumstance being more distinctly marked in the second case, and the latter in the first."

The pulse was extremely slow, falling as low as forty-eight in a minute. He was vomited, purged freely, and at last large doses of laudanum were administered, and with relief. He had a great pain in his head, for which he was blistered. The laudanum appeared to be the active medicine in his cure, after the use of emetics.

ART. XII. *New England Journal of Medicine and Surgery, for* July, 1825. No. III. Vol. XIV.

Essay on Paruria Erratica, or Erratic Urine, by JOHN D. FISHER, M. D.

THE author gives an elaborate detail of facts to prove, that the urine is secreted occasionally by the stomach, the breasts, the skin, &c.: which, with their explanation, occupy the

whole essay. After combating, in three or four pages, the chimeras of Darwin, he supposes that the urine is not admitted into the blood, but that the organs—the stomach, breasts, &c. which secrete it, when the urinary functions are deranged, has the power of forming it from the blood, which he supposes is as healthy as in the natural state of the system. As the author confesses, that in some instances, the smell of urine is discovered in the blood, it is undeniable that this substance must exist there, for it is to the urea that the odour of urine is owing, and to which are traced its peculiar qualities; we think that, after all his labour, the point is untenable. The fact that the injection of urine into the blood-vessels is almost immediately fatal, is not sufficient evidence against the existence of the urine in the blood; because, in performing experiments it is introduced suddenly; and even then does not always kill, whereas in ischuria it is introduced gradually, which accounts for the slow termination of the disease in many cases. A case of great interest, showing the general fatal tendency of ischuria is given, in the essay which we beg leave to transcribe. It happened in the practice of Sir H. Halford, of London.

"A very corpulent, robust farmer, of about fifty-five years of age, was seized with a rigor which induced him to send for his apothecary. He had not made water, it appeared, for twenty-four hours; but there was no pain, no sense of weight in the loins, no distension in any part of the abdomen, and therefore no alarm was taken till the following morning, when it was thought proper to ascertain whether there was any water in the bladder, by the introduction of the catheter, and none was found. I was then called, and another inquiry was made, some few hours afterwards, by one of the most experienced surgeons in London, whether the bladder contained any urine or not, when it appeared clearly that there was none. The patient sat up in bed and conversed as usual, complaining of some nausea, but of nothing material in his own view; and I remember that his friends expressed their surprise that so much importance should be attached to so little apparent illness. The patient's pulse was somewhat slower than usual, and sometimes he was heavy and oppressed. I ventured to state, that if we should not succeed in making the kidneys act, the patient would soon become comatose, and would probably die the following night; for this was the course of the malady in every other instance which I had seen. It happened so; he died in thirty hours after this, in a state of stupefaction."

This affection of the urinary organs is very rare, always incurable, and therefore this essay is almost wholly useless. It is ingenious, but not conclusive, and shows considerable research.

Account of the Epidemic Dysentery, as it appeared in Beverly in the Summer and Autumn of 1824. By Dr. ABNER HOWE.

This disease, after three weeks, took the form of cholera, with bilious discharges, afterwards, for the first six or eight days, a continued bilious fever. As Dr. Howe has not been explicit on the origin of the disease, we beg leave to add a few remarks on this part of the subject. It evidently arose from the dryness of the season, and of course the heavy dews, succeeding hot days, for they are always, as they are the result of increased temperature, proportional to the mean heat of the twenty-four hours. The proximity of the sea also would render the temperature of the night low, compared with that of the day; for Beverly is situated on a peninsula formed by two small inlets of the sea, called North and South rivers: and, as an additional proof of this fact, less rain had fallen in the preceding months of June and July than usual, and the springs were low until October.

"*Treatment.*—In a few of the cases to which I was called, I prescribed emetics of ipecac. or antim. tart. followed by cathartics, and to be succeeded by opium in such quantities as to relieve the pain. Emetics of all kinds, when they produced no other effect than the evacuation of the contents of the stomach, appeared to be attended with little benefit to the patient. Even in the early stages of the disease, the symptoms were not perceptibly relieved by medicines of this class.

"Cathartics were very generally followed with decided benefit. Even aloetic pills, which were sometimes taken before the advice of a physician was requested, commonly afforded some relief. Rhubarb in substance or tincture was a useful remedy. In a few cases, however, it excited great tormina and distress. Castor oil, when given alone, or combined with calomel, was generally followed with some relief from pain and abatement of disease. But during the second and third periods of the epidemic, calomel alone or combined with rhubarb or castor oil, was decidedly a good cathartic. It was my general practice to give almost daily such doses of this medicine as to produce two or three dejections, and to

give opium either combined with it, or to follow its operation in such doses as to remove all pain. Alkalis formed a useful class of remedies. I frequently gave magnesia, lime water, or a solution of the carbonate of soda. Injections of starch or mucilage of gum arabic with tincture of opium were generally followed with temporary relief, and frequently with permanent benefit. Blisters applied to the bowels, or even to the limbs, were not without some beneficial effects.

"Bleeding was not followed with such decided relief as to induce me to have very frequent recourse to the practice. In one case attended with pain in the head, vomiting and purging, a pulse small, frequent, and somewhat hard, the blood drawn from the arm did not exhibit the appearance of inflammation, and no perceptible benefit followed its abstraction. In another case attended with similar symptoms, but with less of the cholera, the blood exhibited something of the inflammatory buff.

"Some benefit generally followed the use of sudorifics, especially in the first stage of the disease. Ipecac. and opium or the aqua acet. ammon. in full doses, were generally used. The warm bath, and the above mentioned compounds were among the most efficient remedies for the epidemic.

"The vegetable and saline astringents were exhibited in different stages of the disease, but usually with no good effect. When it had assumed its chronic form, and had been of many weeks continuance, astringents taken into the stomach, or used by way of injections, did not give satisfactory relief. When it passed from its acute to its chronic form, it appeared to be only a change from a general to a local disease. Purgatives were necessary in the first, and laxatives and tonic cathartics in the second. A man, who had laboured under the disease for six weeks, with frequent discharges from the bowels, and considerable pain, which was mostly confined to a particular spot, was cured by the application of a blister on the painful part. Having used the spirits of turpentine with success in some cases of diarrhœa, I expected it would prove a valuable remedy in the chronic form of dysentery. But after giving it a fair trial in many cases, I was induced to abandon its use, having witnessed no decidedly good effects from the medicine in any case."

This treatment appears to be throughout dictated by the idea, that the disease was a disease of the bowels alone: dysentery is always in summer nothing more nor less than bilious fever; and any plan of treatment, which does not proceed upon that basis is palliative and temporizing. Emetics did

little good: cathartics did much more. Calomel was used to produce two or three dejections, combined with opium, in such doses as to remove all pain. Here we would observe, that the symptoms were not highly inflammatory, and as it appears that the disease was evidently a bilious remittent, and the summer dry, resembling our southern diseases, if calomel had been pushed so far as freely to evacuate the bowels, and produce salivation, there can be no question it would have been the more proper plan. It is the most satisfactory medicine in bilious fevers; and the experience of tropical latitudes demonstrates it. The character of the season reduced the systems of the inhabitants, who were accustomed to a cold latitude, to a tropical state. Accordingly one of the cases related by Dr. Howe, in which salivation took place, supports its efficacy: cathartics, so as to produce free evacuations, and finally, a salivation in common remittent dysentery, is certainly always the best plan. When it inclines to typhus, the salivation is still the best remedy: at the same time using evacuants moderately, and nutriments and stimulants as may be necessary. The opium, we think, was used too freely in this disease, by Dr. Howe, as it was administered without limit, in such doses and frequency, as to remove all pain. It appears from his cases, that immediately on the exhibition of the calomel, it was followed by castor oil, so that it was not possible for a salivation to take place. Accordingly, we find some of his cases continuing for four weeks.

When it took the form of cholera, of course these remarks do not apply: opium then became necessary to allay the spasms; the calomel, however, in one case, as soon as the gums were touched, relieved instantaneously; and in all instances this would have been the result, we have no doubt, if a fair trial had been made.

—

As the case of Ovarian Pregnancy, by the respectable Dr. Barkhausen of Bremen, and that by Dr. Doe, of retention of a child after the usual period of gestation, were both incapable of assistance from medicine, and finally fatal, we refer our readers to the Journal for an account of them. Reviews follow of Dr. Dewees' book on Midwifery, which is highly praised.

In the course of the review we meet with the following useful passage on the treatment of Prolapsus, which the reviewer believes to be generally incurable.

"He employs a pessary, but of peculiar construction and

properties. A small gauze or cambric bag is made nearly corresponding in size with the vagina. This is filled with powdered red bark, or oak bark. It is next immersed in hot port wine, and, when cooled, is introduced into the vagina, and secured by a T bandage. It may be removed at night, and be again applied in the morning, having again been soaked in the wine. During a catamenial period it is not to be worn, but to be again resorted to as soon as the period is over. The gentleman referred to, assured us that the effect of this remedy was to produce a firm contraction of the vagina, and that he had known cases which had been permanently cured by six weeks trial of this means. This is a very simple method; we have recommended it, and have known it to have been employed. In one case it was recommended to a patient living at a distance, in consultation. The effect of it in this case is not known. In others in which it has been used, we have the negative evidence of its beneficial uses, in the fact that farther complaint of the prolapsus has not been made. Should pregnancy occur, and the patient be properly managed after delivery, a natural cure may be made of prolapsus."

This plan is recommended on the authority of Dr. Osiander of Gottingen, and though the use of astringents is a practice familiarly known, yet, from the general inefficacy of the pessary, its uncomfortable and disagreeable character, as also from the danger attending its use, as it has produced ulceration of the vagina, from being accidentally retained, the above plan presents some interesting advantages.

—

It appears that, at the Annual Meeting of the Medical Society of Massachusetts, the following useful regulations with regard to the qualifications of candidates for licenses to practice, were adopted: they cannot be too generally known.

"It is understood that candidates must be able to translate the select orations of Cicero, the Æneid of Virgil, or the medical writings of Celsus, and the formulæ of the Pharmacopœia of the United States.

"That the candidate must have a knowledge of Euclid's, Playfair's, or Légendre's Elements of Geometry, and Bryan's Conversations on Experimental Philosophy, or Enfield's Elements of Natural Philosophy."

ART. XIII. *New-York Medical and Physical Journal*, for January, February, and March, 1825. Vol. IV. No. I.

An Essay on Endemic Fever. By ALEXANDER COVENTRY, President of the Medical Society of the State of New-York.

THE author congratulates the Society on the favourable change produced in the profession of medicine within the last thirty years, by the laws regulating the practice of physic in the state of New-York, and in the extension of education; lamenting, however, the effects which still obstruct the full developement of the usefulness of our science, and increase the destruction of human life. He alludes more particularly to the defect of their law, which permits "those using roots, bark, or herbs, the growth or produce of the states," to be exempted from the penalties of the act; an absurdity the more remarkable and dangerous, as the botany of this country furnishes the most powerful poisons, and as these lawless ruffians freely use the most active foreign articles of the shops under the privilege conceded by the legislature.

The remarks upon this subject, by Dr. Coventry, are very sensible, and as it is now agitated, from the success of the celebrated empirical practitioner in this city, and from the appeal made by many respectable citizens of Pennsylvania, for a law to suppress the abuses arising from the use of these dangerous weapons, the Editor of this Journal begs leave to lay the following documents before his readers, with regard to the effect of laws in other states.

Boston, January 22d, 1825.

Dear Sir,

Very urgent engagements must form my apology for not sooner attending to the request conveyed in your letter to me.

In this commonwealth, two laws have been passed, in regard to empiricism, which are contained in a pamphlet I beg leave to inclose you. The first was passed at the motion of the country practitioners; but, being defective, was afterward modified in the last act, passed on the application of the Medical Society.

The operation of these acts has been found beneficial in the country; and our country members would be exceedingly unwilling to relinquish them. In the towns we have not favoured the enaction of any laws on the subject; but have

preferred the adoption of internal regulations for the government of the profession, which are calculated to prevent the progress of quackery. In this we have been remarkably successful: the physicians in the large towns, without the aid of laws, have acquired a control over the practice of medicine, quite sufficient to prevent empirics from obtaining favour from the public.

For the last twenty years, the Boston physicians have been bound to each other by regulations of their own adoption. No new practitioner can be admitted without their sanction. In the course of these twenty years, there has been but one instance of complaint to the association, of irregular practice; and he was punished with promptitude.

If you judge I can give you any further information on this subject, it will gratify me to do so.

I remain your very obedient servant,

JOHN C. WARREN.

DR. COLHOUN.

New-Haven, January 2d, 1825.

Dear Sir,

The subject of preventing empiricism has been for a long time agitated in this state. The law which now exists, in my opinion, is salutary in its effects. It has been in operation as much as twenty years. If the opinion of the public had not been in its favour, it would have been repealed. The law goes no further than to prevent empirics from collecting their debts by law. A physician or surgeon must be regularly educated, examined, licensed, or have a degree, in this, or some other state, or country, to entitle him to the privilege of law to collect his debts. Empirics have been prosecuted and fined for mal-practice upon the principles of common law. The subject of preventing empiricism has been frequently agitated by the physicians in convention; but they have not been able to agree among themselves, what other law, or extension of the present law, would be serviceable in preventing empiricism. If I possessed any facts which are interesting to you, Sir, on this subject, I should be happy in communicating them.

Yours, &c.

ELI IVES.

Mount Holly, January 10th, 1825.

Dear Sir,

I last evening received yours of the 31st ult. We have in this state a law that subjects the empiric to a fine of

twenty-five dollars, and excludes the unlicensed practitioner from recovering any fee for his services. The law is, I think, defective, but I believe it to be useful, &c.

I am, Sir, with much respect, yours truly,

JOHN L. STRATTON.

DR. S. COLHOUN.

Wilmington, January 2d, 1825.

Dear Sir,

I have just had the honour of receiving your letter of the 31st ultimo. It was with regret that I understood that your governor refused to sanction a measure which I had supposed no enlightened man would, at this day, endeavour to defeat. After several fruitless attempts in Delaware, we at length succeeded, in 1819, in getting a law passed for the suppression of empiricism. But it was not exactly the kind of law we wished; for in it, the legislature reserved to themselves the right of appointing the members of the board of examiners. The consequence was, that many of the physicians that were selected, were so indifferent about the law, that it answered no good purpose. In 1822, we succeeded in getting a supplement to the law, vesting in the medical society the power of appointing the board of examiners. The board was now filled with physicians, who, it was presumed, would not, through fear or negligence, be remiss in putting the law in force. But, to make it still more efficient, the society binds every member of the board, by oath or affirmation, to perform their duty faithfully and impartially. As the law now stands, I can most unequivocally state, that it has, so far, completely answered our most sanguine expectations. It certainly has deterred some quacks from appearing among us; but to those that did make their appearance, an intimation that if they did not immediately desist from infringing the law, a prosecution would be commenced, was quite sufficient. I suppose you are aware that our law was not intended to operate against those that were engaged in the practice of medicine at the time of its passing. Although it would have been pleasing to us if we could have suppressed quackery *at once*, so desirable an object could not be accomplished. Time alone must rid us of the quacks that were among us in 1822, and I trust our determination to enforce the law will prevent others from visiting Delaware. I sincerely hope that your philanthropic exertions to have a law of this kind in Pennsylvania may succeed. Indeed, similar legal measures must eventually be adopted in every state.

Any other information you may request, will be given promptly, and with the greatest pleasure.

Very respectfully,
Your obedient servant,
W. D. BRINCKLE.

S. COLHOUN, M. D.

Baltimore, 14th January, 1825.

Dear Sir,

In answer to the communication which you did me the honour to make to me, regarding the effect which the law to prevent quackery in this state has had towards that object, I beg leave to reply,—that the law at present in force in this state, was enacted in 1799, and has been strengthened by various supplements, passed by the legislature, since that time. That it is the opinion of the most eminent civilians, as well as physicians among us, that its influence has been most extensively beneficial throughout the state, not only in protecting the lives of our fellow citizens, but in fostering the medical character; for Maryland presents at this moment, in proportion to its population, a body of more enlightened and intelligent physicians than can be found in any other state in the union. The law, which has conduced to this good effect with us, I send you a copy of, as printed under the direction of the faculty. You will perceive that by imposing a fine, or penalty, upon *unauthorized* practitioners, and depriving them of the power of collecting, under the laws of the state, any charge for medical services, have been the sole and effectual means used by our legislature, for the suppression of quackery in this state. That other states, and in particular, that Pennsylvania, may shortly enjoy the advantages which result to us from so wise a law, is my ardent desire.

With great regard,
I have the honour to be
Your obedient servant,
J. MACAULAY.

DR. S. COLHOUN.

Dr. Coventry agrees generally with Dr. Cooke, in his treatment and views, with regard to endemic fever, but he does not think bleeding so necessary; one operation being generally sufficient. He gives some interesting facts on the prevention of this disease.

"A most respectable gentleman informed me, that while residing in South Carolina, he became acquainted with a

wealthy planter, who had not left his plantation in the sickly season for many years, although all his neighbours emigrated annually during the hot months. The only precaution used was a small dose of Glauber's salts every morning, during the period of fevers."

"About thirty years ago, a friend, a sea-captain, informed me, that in one of his voyages from New-York, when he arrived at the West-Indies, every man of his crew were under the influence of mercury. The vessel lay some weeks, I think at St. Pierre's, Martinique. It was a very sickly season; every vessel but his lost some hands; several, their whole crews; but not one of his men had the fever. At the taking of Omoa, on the Spanish Main, the British squadron suffered severely by fever; but it was remarked, that of a number of men employed to collect with their hands some quicksilver spilt from the jars in a prize-vessel, not one sickened, although surrounded by the dead and dying.

"When a person in health arrives from a northern district at a southern port, in hot weather, he ought to be bled copiously, and make use freely of cathartics; the efficacy of this plan was proved in a detachment of Dutch artillery, composed of robust young men. On their approaching the island of St. Domingo, the lancet was used, and powerful cathartics were given to every individual. At the expiration of four months, of one hundred and five men, only two had died. No precaution had been taken with the crew of the transport, consisting of twenty-eight; of these, eight had died at the expiration of the period."

In treating it, he relies equally on the purgative and alterative doses of calomel: if continued purging be kept up, they grow stronger, and often by it, in the well, the disease is prevented.

"In 1814, a militia man from Montgomery county, contracted endemic fever at Sacket's harbour. On his return, unable to proceed, he stopped in the vicinity of Utica. I found him worn out with disease, his eye yellow, countenance bad, pulse rapid, tendons playing, and a slight delirium. He had also the fluxus castriensis, but was unable, without assistance, to walk to the stool. I left him twelve powders, composed of camphor, nitre, calomel, and a small quantity of tartarized antimony. Being called to a distance, and detained, I did not see him again till the expiration of thirty-seven hours, when I was not a little surprised to find my patient sitting at supper, apparently in health, and eating with tolerable appetite; the delirium and subsultus had disappear-

ed, and he was able to walk without assistance. The directions had been religiously followed, a powder every second hour, although every dose had, in ten or fifteen minutes, operated as a powerful cathartic. Had I been present, the medicine would not have been continued, and probably the person would not have been able to proceed as he did next morning for his home.

"In the Annals of Medicine, Vol. I. Dr. Brice states that he has often seen a man carried out perfectly delirious, with subsultus tendinum, and in the state of the utmost apparent debility, who, after one or two copious evacuations of this kind, has returned of himself, composed and astonished at his newly acquired strength."

He prefers calomel to every other cathartic. It is to be given in moderate and repeated doses; and as it cannot be vomited, the patient is freely purged by it.

"The catharsis must be kept up, till the dark fæces are replaced by those of a more natural colour, and should the system in the mean time afford obvious signs of being duly imbued with the mercury, that medicine should be omitted, and other laxatives used, as the neutral salts in an infusion of senna, the ol. ricini, or a preparation of the croton oil.

"It will be understood, that it is only at the commencement of fever, that we strongly advocate the mercurial treatment; after a certain period the system appears to become insensible to this medicine, and toward the latter period it seems injurious. When the febrile action has subsided, and the fur disappears from the tongue, the strength of the patient must be supported by wine, and for this purpose genuine Madeira is the only suitable kind; in a short time, to this may be joined the cinchona, either in decoction, or in the admirable form of the sulphate of quinine, united with some pleasant aromatic, as cinnamon. After endemic fever, there is generally a voracious appetite, and more relapses occur from over eating than from any other cause."

Beck on the Small Pox.—Dr. Beck confirms the prevailing notions of the origin of varicella, variola, and varioloid from the same poison; and the efficacy of the vaccine in preventing and mitigating the small-pox.

Moore on the Diseases of the New-York Hospital.—Dr. Moore relates a case of apoplexy, which, after copious depletion, and rapid tendency to dissolution, he recovered by a remedy somewhat uncommon, though not entirely new.

"His extremities were now becoming cold, and his state appearing very desperate, I determined to try the effect of

quickly blistering his legs by means of hot water, and accordingly ordered a bucket of boiling water to be brought immediately: into this, pieces of blanket were dipped, and his legs, from the knees to the feet, were wrapped up in them. He showed no evidence of sensibility, even to this application, which was several times renewed fresh from the boiling water, until his legs became red and inflamed. After a few hours I visited him again, and found him sweating profusely, rolling his head on the pillow, and making an ineffectual effort to speak: both legs were severely blistered; the injection had operated; his countenance, pulse, and breathing had much improved, and his pupils were less dilated. On the following morning, I found him sitting on the side of the bed, appearing quite well, and complaining of nothing but his legs, which were extremely sore. They were dressed with turpentine liniment; some febrile excitement appeared, which was subdued by cathartics and antimonial solution. A few days after this he was removed to a surgical ward, where he slowly recovered from his sore legs."

With regard to salivation, when excessive, he speaks highly of the use of subacetate of lead, in the of quantity of one ounce to the pint of water as a gargle.

The following remarks on the treatment of rheumatism are valuable:

"With regard to bleeding in this disease, although, when carried to a great extent, it is sometimes thought to endanger life, by occasioning metastasis to some vital organ, yet at other times, it has appeared to enable the constitution to bear the loss of a great quantity of blood with impunity. I remember to have seen a case of rheumatism some years since, in which the cure was attempted, almost solely by bleeding; on several occasions, blood to the amount of forty ounces was drawn, without producing any disposition to faint, and scarcely any effect on the pulse; and subsequently, with the view of effecting this object, fifty-six ounces were taken at one bleeding, with as little apparent effect. This patient lost altogether, within a short period, nearly three hundred ounces of blood, and, although he did not appear to have sustained any injury from this treatment, he evidently had not, at the time I saw him, derived from it the slightest benefit, as his pains continued unabated.

"In the commencement of severe attacks of acute rheumatism, where the habit is full, and the constitution vigorous, if the inflammatory symptoms are high, I generally begin the treatment by one pretty free bleeding. Although I am

far from thinking it in all cases as essential in this, as in most other phlegmasial diseases, I still believe, however, that it often has an important influence in moderating the severity, and shortening the duration of the attack: but I must confess I have, on many occasions, even in the most acute forms of this disease, trusted to other means, to the total exclusion of bleeding. These were chiefly active mercurial and saline cathartics, and nauseating remedies, and from the moderate duration, and favourable result, I have no reason to believe that any other mode of treatment could have been more successful, though it might perhaps have been more agreeable to the feelings of the patient. After a single bleeding, I place my chief reliance on the other means above-mentioned, giving from ten to fifteen grains of calomel, occasionally combining with it from one to three grains of tartar emetic, and following it within a few hours by two or three ounces of infusion of senna with Epsom salts, to which is sometimes added from a scruple to half a drachm of powdered jalap. For recommending the addition of jalap, which renders this a much more active purging draught, I am indebted to Dr. Pring. This medicine should be repeated every two or three hours, until it produces full effect. If the excitement is not sufficiently reduced by these means, recourse is generally had to antimonials, given in full or nauseating doses. During the early stage of the disease, the bowels are kept freely purged by giving each night, eight or ten grains of calomel, and on the following morning, senna with salts. In some cases, tincture of colchicum has been found useful in producing this effect, given in the dose of one tea-spoonful three or four times a day; and this not only operated freely on the bowels, but often vomited also. By pursuing this plan of treatment, all urgent symptoms will sometimes be removed in a few days, requiring only that a free state of the bowels be maintained for some time longer; this may be effected by giving, each night at bed-time, five grains of calomel or blue pill, with an equal quantity of aloes, and giving occasionally in the morning a more active purgative of senna and salts. When the disease is not soon subdued by these means, I have recourse to calomel and opium, giving from two to four grains of calomel, with from a quarter to half a grain of opium four or five times a day, to which is sometimes added, from an eighth to a quarter of a grain of tartar emetic; this is continued until the gums become slightly affected, and relief is generally afforded, shortly after, if not before this

effect is produced. Purgatives are then again employed, and continued some time longer."

"In the more chronic forms of this disease, warm and vapour baths, where they can be used without subsequent exposure to cold, are often highly useful. The vapour of vinegar and water I have sometimes found more useful than that of water alone. In my own person, I have several times found this to be the case. Where pain has been confined to one spot, which was unattended by symptoms of active inflammation, I have several times tried the effect of acupuncturation, particularly in cases of rheumatism in the loins. On each occasion, I have introduced the needle to the depth from an inch to an inch and a half—sometimes without producing any effect, but often with at least temporary benefit; one patient declared himself relieved from all severe pain, and complained only of some remaining stiffness. At the time Mr. Churchill's publication on this subject first appeared, as I was suffering from rheumatism, I was induced to try the effect on myself, which I repeated many times, and generally with partial relief. I frequently introduced the needle an inch and a half into the mass of lumbar muscles. I am induced to mention this circumstance, merely for the sake of stating the fact, that this operation occasions nothing which deserves the name of pain.

"The handle, into which the needle is fixed, should be held between the thumb and forefinger, and by giving it a rotatory motion, the needle is to be slowly introduced. A sensation somewhat resembling that which is caused by a very slight burn, is perceived as the point is passing through the skin, after which, its further advance is not perceptible."

Dr. Mott, it appears, has commenced preparing a patient for the use of Civiale's lithontriptor. We hope, if his patient is not already beyond the pains of this world, he may be induced to pause and reflect, before this operation is attempted.

ART. XIV. *Philadelphia Journal of the Medical and Physical Sciences*, No. 20.

As usual, a selection of the practical papers only, is made in this review.

The paper on the winds and sickness amongst strangers in Havana, in 1822, is valuable. Among other circumstances, it shows that purgatives are generally the best plan of treatment, and that close, damp weather, among other causes, favour the disease—the yellow fever, a subject of little interest to most of our subscribers—the account of the substitute for M. Civiale's instrument from Paris, is extremely well drawn up by Dr. Horner, and shows ingenuity in Mr. Lukens, its inventor. It appears, however, that the warmest advocates for the operation of Civiale in this country, have abated much of their zeal in its favour. In the above paper it is stated, that the question of its applicability to the living patient, and its safety with regard to pain, is still undetermined. Dr. Jameson has favoured us with the following observations on this instrument, as improved by Mr. Lukens:

"Professor Davidge did me the favour last winter to put into my hands the instrument he had procured from Mr. Lukens. A careful examination of that instrument, and subjects connected with it, led to the views which have been offered in my paper on stone. I now observe that the instrument has not been altered, except in adding drills of different kinds, and the duck-bill forceps. One drill is furnished with teeth on the plan of a trephine, the only possible advantage of which would be that of dividing a needle or other small slender nucleus, and, in most instances, leave one or both pieces to serve again as the centre of a stone or stones. It would only be by a lucky hit they could be brought away. It must be admitted, moreover, that M. Civiale's strawberry borer possesses equal advantages in this respect with the trephine drill. The drill with an arm projecting from its side, is a "fearful two-edged sword," which, whirling about rapidly in the bladder, is liable to commit ravages, which no human foresight or dexterity can avoid, and which no human skill can remedy. The duck-bill forceps will be found extremely limited in their application, since it is obvious upon the slightest inspection that none but very small fragments can be drawn into the tube; and as we must grasp them in the dark, it is only when they happen to be roundish, or taken, when oblong, with their longer diameter in the length of the beaks of the forceps, that they will enter the tube."

As the operation according to the mode of Civiale has been unsuccessful in the hands of Dr. Physick, the most celebrated surgeon of this country, equally distinguished for his humanity and his skill, and has produced great pain and irritation in the trial by Dr. Rhea Barton, an expert surgeon of this city,

with Mr. Lukens' improvement, it is certainly dangerous, till further experience justify its practicability. In the hands of M. Civiale, it may succeed in simple and recent cases, but it is probable it will require great experience, to use it with safety even in these, as M. Civiale has been long in acquiring his present dexterity.

We have seen, in the Bulletin des Sciences Medicales, an abstract of a memoir read before the Academy of Sciences in Paris in February last, with regard to the success of this operation by M. Civiale himself, dated about one year after the report first read before the same body, which Dr. Jameson has animadverted upon in the memoir in the first essay of this number; the results are given in the following pages:

In the first case, that of a woman aged 72 years, the stone, of the size of a small nut, was so friable, that the pressure of the pincers was sufficient to break it: it was destroyed, and the smaller fragments came away with the urine; the others were extracted by the pincers.

The second had, for five years, a stone of the size of an almond. In two sittings, at the first of seventeen minutes, it was divided into two: the patient talking the whole time. In three days after, in a sitting of twelve minutes, a stone, smaller and softer, was comminuted and withdrawn; the central fragment was removed four days after.

A stone was extracted from a third patient, at three sittings: it had escaped the discovery of the sound at the first sitting: the lithontriptor, therefore, presents advantages even for discovering the stone.

A fourth patient was relieved of a stone at three sittings. The patient had a fit of the stone during the interval of one of them. Since its extraction he has been entirely free from uneasiness of any kind. A disease of the kidneys, which, on dissection, were found very large, and in a state of dissolution, arrested M. Civiale in an operation on a child aged nine years, the son of the subject of the last operation. In the family the disease was hereditary, as the father, the mother, and two children, all had it.

The fifth subject was afflicted with the stone for five years; the operation occupied six different sittings, from the imprudence of the patient with regard to diet, &c. The patient, however, from a state of great debility and emaciation, soon recovered.

A stone of four years duration, and of middle size also, was taken from another patient at six sittings, without the slightest fever. Another stone, of the size of a nut, was re-

moved at seven sittings: the system of the patient was highly irritable; his fever, however, was very slight.

M. Civiale then goes on to state some cases, in which the operation was protracted, and the cure doubtful.

When the stones are numerous or very large, they require a great number of attempts. In some, the stones, besides being large, are complicated with disorders of the kidneys and bladder, with frequent emissions of pus mixed with the urine; in the smaller number they are united with an extreme sensibility of the bladder, so that the introduction of the catheter alone produces alarming symptoms.

In these cases, M. Civiale did not hesitate to operate, as he considered, that if he should fail, the chances of success from lithotomy would not thereby be diminished. An abstract of these cases follows:

The first case was that of an old man, tolerably fat, who had for many years been tormented with a very large stone. The instrument used was of the largest size—four lines in diameter. The stone escaped often from the forceps at the two first sittings, notwithstanding which, as also an asthma, which troubled him, he recovered completely, after having passed much gravel and many fragments, some of which were pretty large. In four months afterwards, he was seized with great pain, in the right hypochondrium, the lower part of the lungs, the thigh and leg. He died; and an abscess was found to extend from the diaphragm to the crural arch; the liver and kidney on that side were diseased; the bladder was entirely sound, without any vestige of stone.

The next case required, from the number and the size of the stones, twenty-eight sittings: the person operated on, however, did not discontinue his occupations; had but two slight accessions of fever; and the bladder became less irritable at every sitting; which was also the case in the following instance. This person had sixteen stones: the kidneys, it was suspected, were very much disordered from the fixed and constant pain he felt in the left loin. It was believed that the stones came from these organs, from the difficulty of finding them with the sound; from the favourable change in the urine after the extraction of the first four stones, and from the remarkable change in colour of those which were extracted after an attack of nephritic colic, which suspended the operation for a month and a half. He enjoyed good health, notwithstanding his extreme sensibility; a stone being extracted, in the latter sittings, every two days, without giving the least derangement to the system. This case

convinced M. Civiale, he observes, that the diseased state of the prostate did not present any obstacles to the use of the lithontriptor.

The next subject was seventy-two years old, and in a state approaching marasmus. He had for several years a great many large stones; and where he appeared to be upon the recovery, he died of an acute gastritis; dissection found the stomach and the intestines very much inflamed. The inner coat of the bladder was slightly inflamed, as it is when a patient has had the stone a long time, and as a proof that it arose from that cause, it is stated, that a very small fragment of one stone, and the third or fourth of another, were found in it.

In the next case, M. Civiale refused to operate, from extensive disease of the bladder. This patient died after the operation of lithotomy performed in the common mode.

In the next case, the bladder was so irritable, that the ancient operation was resorted to, and with success. In another case, M. Civiale proposed the ancient mode, though he had detached a very large fragment from the stone, the size of which was very great. The volume of the stone, and the irritability of the bladder, rendered the other operation preferable. The man, however, died three days after undergoing it. M. Civiale was consulted in other cases, which he does not particularly describe, in which the patients were so far exhausted from the effects of stone, as to render an operation entirely impracticable.

He then goes on to observe, that the dilation of the urethra is by no means necessary to introduce the lithontriptor, which may be made of a size smaller than that of the ordinary sounds. In ordinary cases, a flexible sound is often kept in the urethra for a few hours, because it is necessary to accustom the canal, previous to the attempt, to the presence of a foreign body. Where the canal is narrowed, however, it must be dilated previously to the operation. M. Civiale then states, that the length of the operation has been objected to it: to this he replies, that two of his patients were cured in less than a quarter of an hour. It is true, he says, when the stone is very large and hard, many attempts are necessary. The only inconveniences, however, to which the patient is put, are rest, and a strict diet on the day of the operation, afterwards he lives as usual. The old operation is followed by pain, suffering, confinement, severe regimen, hemorrhage, fever, and is often mortal: it is also followed by abscesses, fistulæ, if this result does not take place. The examination

of the instruments will dissipate, says he, the fear of wounding the coats of the bladder, or of those dangers arising from breaking the instrument. The construction of the pincers, he thinks, will convince the observer, that there is little danger of leaving behind any remaining fragments, which have been extracted, even to the smallest dust, after the operation. The aptitude of the urethra to give passage to foreign bodies in the bladder, which possesses the power of contraction sufficient to discharge the urine to the last drop, dissipates this objection. The cures he has performed within a year from the date of the memoir, he goes on to say, put it beyond all doubt.

He then sums up his account with the following general conclusions:

I. The majority of stones which do not exceed an inch and a half in diameter, and which have not produced too great derangement of the bladder, or general constitution, can be destroyed by the lithontriptor.

II. The more recent the malady, it is the more curable by this mode.

III. The obstacles which limit the application of this instrument now, will every day diminish; for the sick, from its superiority, will have recourse to it early.

IV. When this method fails, the ancient mode may be tried; it will, therefore, as being less terrible, be preferred.

V. The dangers and terrible consequences of the lithontriptor, in a practised hand, are less than those of the old mode.

New observations are promised on the doubtful cases, which form part of the subject of the memoir.

—

The Subscribers have now before them the plan and experience of M. Civiale, as given by himself, and the results of the trials in this country. The operation is attended with danger performed by an inexperienced hand, and as we hear of no operations performed in France, where there are so many great surgeons, except by M. Civiale himself, it certainly should not be performed except after long practice. The second conclusion of Civiale, that in proportion as the cases are recent, the operation is safe, seems to agree very well with the conclusion justified by experience here, and the opinon of Dr. Jameson, that it is best suited to simple cases. The question, however, is to be resolved only by future experience. Mr. Lukens has gone to Paris, where, no doubt, he will acquire a knowledge of the use of this instrument,

and return with all the information which can be wanted on the subject. We shall then give an account of the various improvements and instruments necessary to the subject, if thought interesting.

In Dr. Jameson's paper, in a note, it was stated that two other cases had occurred of the unsuccessful use of M. Civiale's instrument, in one of which death was the result; on enquiry, our information with regard to its fatality in that case was incorrect; death has occurred only in one instance, after the use of this instrument, though it has been impracticable in several others.

The extraordinary case, in which clots of blood oozed from the surface of the face, in a letter from Ohio, is indeed too incredible for an ordinary degree of medical faith. Bones of every size under the weight of two drachms, fimbriated substances, lumps of flesh that alternated with the bones, about the size of the end of a finger, were discharged about the left eye, and mostly on the cheek. "They continued to come for about six weeks, with an intermission of three or four days. At first, they came as often as once in every ten or fifteen minutes, and were very hard," &c. All agreed in thinking they must come through the skin.

The spectators, who attest this fact, appear to be very respectable; there must have been some deception in the affair. Two cases of scirrhous uterus are related, one by Dr. Skinner, the other by Dr. Sharpless of this city, in which pregnancy took place; and in the latter the child was delivered: in the first, the scirrhus was a pyriform tumour, and rising from the substance of the uterus: the head of the child had not passed the os uteri, when the mother died. The fœtus in the other case was born, but was dead: for further particulars, see the Journal. The case of congenital hernia, very well drawn up, by Mr. C. Morris, an intelligent pupil of the Pennsylvania Hospital, shows the necessity of examining for hernia, in all cases of colic; after an attack, as was supposed, of this disease, the scrotum and groin mortified, and a fistula remained. From examination after death, it appeared, that the strangulated part of the gut was only a small portion of its circumference: on the separation of the slough, fæces were effused into the cavity, and the child died. The papers on animal heat and digestion, &c. are all well drawn up, and highly respectable, but as they are not immediately practical, they are omitted.

Our subscribers will recollect that their attention was called, in the last number, to a paper by Dr. Godman, on the fasciæ and sheaths, as a specimen of the carelessness of our

medical literature: another paper, on the same subject, by the same author, is published in this number. As this gentleman is one of the editors of the Journal under review, the following remarks may stimulate him to increase his industry.

He states, speaking of the fasciæ and sheaths of the muscles, "They are strong, dense, and inelastic fibrous membranes, stretching from the bones over the muscles, so as to give them a uniform external covering, and thus far the fasciæ were studied previous to my researches." This is certainly very explicit. He then continues, "In addition to the external covering, sheets or layers are sent off from the great exterior sheet, by which each of the muscles is enwrapped or included in a distinct sheath, the layers of which terminate on and around the joints for the formation of their capsular ligaments." Dr. Godman next goes on to show how the sartorius is enveloped in its particular sheath. We subjoin the following extract from John Bell: "All muscles, or almost all muscles," says Mr. Bell, "form for themselves individual sheaths, such as are seen inclosing the supra-spinatus and infra-spinatus of the scapula, the biceps humeri, and *most of the muscles* of the leg and thigh."*

With regard to the formation of the ligaments, by the layers of the fibrous sheaths which inclose the muscles, terminating on and around the joints, which Dr. Godman thinks he is entitled to, it is also found in the same book; speaking of the periosteum, "Each line is tied to the next by its own periosteum, and this membrane betwixt the end of one bone, and the beginning of the next, is so thickened into a strong hard bag, as to form the capsule of the joint; and the periosteum is assisted in performing this office, by the tendons, fasciæ, hirsæ, and all that confusion of substance, which surrounds† the joint." Dr. Godman goes on to state circumstances which modify the muscular system; but as we discover in another part of this paper, facts generally known, such as the influence of the annular ligaments in tying down the tendons, the trochlea of the eye, we refer to the paper itself.

Dr. Godman's zeal cannot be sufficiently estimated: the eagerness of pursuit, and enthusiasm for his science, no doubt, have induced him to overlook the authorities above quoted.

—

Dr. Baker, of Bladensburgh, addressed a letter to his friend Joseph Hunt, M. D. praising the efficacy of cold water in

* See J. Bell's Anatomy, &c. New-York, 1822. p. 279.
† Ibid. Vol. I. p. 281.

dysentery, as of prominent virtue among its other remedies, which was published in one of the newspapers, and again by this number of the Philadelphia Journal. It suggests one remark, hinted at by the editor of the Philadelphia Journal, which is respectfully submitted to the subscribers of the Medical Recorder:—the danger of circulating remedies, which are always taken by the ignorant as panacea, even though recommended only under particular circumstances, for every variety and form of any particular disease in which they are given: they are too often solely relied on, to the destruction of many lives; the people catching always the prominent article recommended, without knowing how to apply it. Cold water is given by Dr. Baker in the form of injection, which renders it more inefficient, as it is a local application for a general disease. It has long been known,* and its administration requires care. Zimmerman mentions that water, not cold, but warm, is to be given in this disease;† and it is stated by Celsus, that warm water is the proper form in which it is to be given, if there be fever; but if the malady has been chronic, a drink of pretty cold water produces a return of health.‡ If the stools, however, be suppressed, warm water must be taken; which Zimmerman also confirms.§

* Dewar found the drinking of cold water hurtful in dysentery, in Egypt, and also in England.

† Zimmerman on Dysentery, p. 244–5. Cold water was in the beginning of the disorder always noxious; on the contrary, warm drink not only does no harm, &c.

‡ Celsus, lib. iv. c. xv.

§ The reviews of the other American Journals will appear in the next number.

ANALECTA.

1. *On the treatment of Wounds received during Dissection.* By JOHN SHAW, Lecturer in Anatomy, &c.—It is not my intention to enter into a discussion concerning the different views that have been lately taken of this very important question: I shall confine myself to a brief account of the mode of treatment which I have pursued, in cases where certain symptoms have followed wounds received during the examination of dead bodies.

The profession is much indebted to Dr. Duncan for the collection of cases of this kind, and the valuable observations he has made on them in his paper on Diffuse Inflammation. This collection affords proofs in corroboration of a view which I have for some time entertained,—viz. that the effects of wounds received during dissection should be classed under two heads, forming cases which differ essentially from each other. The one seems to be of a specific nature, is attended with immediate danger, and is generally the consequence of examining a body a few hours after death; and, as far as my experience goes, most frequently follows dissection of the bodies of persons who have died with inflammation of some of the serous membranes. The other cases are more common, are less dangerous, and resemble in many respects those with which all who have attended to hospital practice must be familiar. I allude now to the consequences of wounds received in the dissecting-room, during the examination of parts which are putrid.

As I have twice suffered very severely from such wounds, and as several of my more immediate assistants have been similarly affected, my attention has been naturally much directed to the modes of prevention and method of cure.

The discovery of any mode by which the student may avoid the evils that have been so frequently consequent on dissection, would be very valuable; I shall therefore begin by making a few remarks upon this last affection, as I think that we have discovered means by which the operations of the dissecting-room may be carried on with comparatively little danger.

Every student, on commencing dissection, is much alarmed when he cuts or scratches his finger; but, in the rooms in Great Windmill-street, the bodies are now invariably injected with a solution of nitre and salt, previously to their being dissected. If a part is not to be preserved as a dry preparation, there is not a single objection to the use of these salts; while the advantages independently of the effect which it seems to have on the morbid poison, are considerable. Indeed, it is now common for students to keep a body for eight or ten weeks; and, even after this time, there is scarcely any smell, and the muscles of the limbs appear fresh and florid.

Previously to our practising the plan of injecting bodies with the salt solution, very serious consequences frequently resulted from pricks or wounds, and particularly in the spring, when the students had become a little enervated from the effects of a winter in town. The only cases that have occurred during the last three or four years, have proceeded from

the dissection of the ligaments, after the limb had been kept for some time in water, or in preparing bones that have been macerated; being, in short, the only occasions on which the student is subjected to putrid matter, not corrected by the solution of the nitre and baysalt.

The history of the effects of a wound made under these circumstances, is nearly the following:—The finger is scratched or pricked in the morning; there is not much pain at the time, but it gradually increases towards the evening; a little uneasiness is felt in the axilla, and next morning red lines can be perceived running up the arm. The finger is now excessively painful; there are often slight rigors, and general uneasiness; the countenance is anxious, and the tongue is sometimes furred, with head-ach; but there is not much fever.

The finger becomes rapidly swollen and livid, so as to call for immediate attention, and the general system is so much affected that we cannot be satisfied in considering the patient as suffering merely from a local complaint.

I shall now offer a view of the general plan of treatment I have followed in such cases. The best local application is lint soaked in equal parts of laudanum and Goulard's lotion, which are to be used tepid at first. The lint should be applied in slips round the finger, and in larger pieces over the hand and up the arm; the whole of which should be kept on a pillow, the hand being on rather a higher level than the shoulder. Notwithstanding this soothing application, the pain sometimes continues so intense, that the patient begs to be allowed to try the effect of a poultice. If this be applied, a large quantity of laudanum should be put into it; but I have generally found that the patient, after a short trial of the poultice, gave it up for the wet dossils. The weight of the poultice seems to increase the irritation. In the course of the second or third day, the patient is so convinced that there is matter situated deeply, that he urges the necessity of cutting down upon it. This is a question of some difficulty. I have several times been disappointed in the expectation of finding matter, although I have cut down to the bone; but I believe it is safer to commit this error, than run the risk of allowing matter to lodge: it does occasionally form very rapidly; and if, under such circumstances, it be not evacuated, it keeps up a dreadful degree of irritation. It is well known that, when matter is pent up under the tendons, it quickly causes them to slough, and even the bone to exfoliate. I would, therefore, were there the slightest suspicion of matter being lodged, cut fairly down to the bone. From experience in my own person, I can state how great and how immediate the relief is from its evacuation, although the operation itself is most painful. By the fifth or sixth day, if the general treatment has been judicious, the bad local symptoms will probably have subsided; but the hand should, for three weeks at least after the severer symptoms have disappeared, be carefully nursed and kept in a sling, as a sort of erysipelatous inflammation is very apt to attack it, and to run from one finger to another, and to be increased by the slightest exertion. The swellings in the axilla must not be neglected; but they have never suppurated in any case that I have seen.

The general treatment I have pursued, has been to keep the bowels in an active state, and this by a combination of calomel with the warmer purgatives, in preference to saline medicines; to keep the patient at first almost in a state of stupefaction, by laudanum and porter. This mode of treatment has been criticised; but I still recommend it, however it may be in opposition to the theories of the nature of this affection, because it appears to afford more relief than any other. While suffering severely under one of these attacks, I have, before going to bed, taken a large dose of opium, and nearly a pot of porter: in this way I have been relieved from the excessive pain, and have slept soundly, although, when I am in good health, a few drops of laudanum or a pint of porter would make me feverish and restless.

I enjoin the patient to live well, and take more wine than he has been accustomed to; and, if the arm is not hurt by motion, to keep as much as possible in the open air. When the severity of the inflammation has subsided, I advise him either to go into the country, or to take occasional short rides out of town on the outside of a coach.

In such a case as the above, (and I believe it to be the one of most frequent occurrence among medical students,) I should never advise venesection; and I doubt the propriety of applying leeches, even although the inflammation should extend up the arm: as far as I can judge from the cases that have been recorded, they do not appear to have been of much benefit; and I can well recollect the horrible pain and irritation which I suffered on one occasion from their application. I would trust principally to an assiduous use of the Goulard lotion and laudanum along the arm.

If the patient be in bad health at the time he receives the wound, there is danger of the local irritation increasing, so as to cause foul abscesses, similar to those formed in cases where a person with a bad constitution has been pricked by a nail, fish-bone, or oyster-shell. If these symptoms should take place, we must treat our patient in the same manner as we do that affection which is familiarly known by the term of the bad hospital-hand; and the best treatment for such cases is, I believe, nearly the same in principle as that already laid down to subdue the first attack. There will necessarily be considerable attention required to manage the abscesses, so as to prevent the tendons from sloughing. I have seen several cases where sloughing abscesses ensued, but happily they have all terminated well: there has not been even the motion of a joint lost.

I doubt whether any thing that is applied immediately on the injury being received, will prevent its bad effects. I have, during the dissection of bodies in every possible variety of condition, wounded my fingers many hundred times, and I have only suffered severely twice. I sometimes took measures to guard against the effects, but I have more frequently entirely neglected the wound: thus we lose all proof of what will produce or prevent the bad consequences; but still I would recommend that the student be careful while he is dissecting putrid ligaments, or preparing bones which have been macerated. If he cuts himself while thus engaged, he should encourage the part to bleed, and, after washing, suck it for some time. I have not much confidence in caustic as a preventive, and I have seen great irritation arise from its use.

The other class of cases is more serious, as it constitutes an affection to which the practitioner is more liable than the student, and one that is attended with immediate danger to life.

All who have been in the habit of attending to morbid anatomy, must admit that there is more danger from a wound received during the examination of the body of a person who has died from any form of inflammation of the peritoneum, than of any other disease. So much have I been convinced of the truth of this, that I have for many years inculcated on the student the necessity of being particularly careful, when examining a body, even though it is not putrid, where death has been caused by puerperal fever, the operation for hernia, or any form of peritonitis, or even of pleuritis.

If, five or six hours after examining such a body, pain is felt in the finger, and a small pimple or a blush of red is found at the part, immediate attention should be paid to it. If the case proceeds in the usual manner, there will probably be a darting pain up the arm, which seems to fix more particularly in the shoulder or side of the chest. Within fourteen hours, the patient is very ill; he suffers a great deal of pain, and is anxious and alarmed. Red lines may generally be perceived running from the hand towards the axilla, but it sometimes happens that there are no marks on the arm, nor even on the finger. Indeed, the affection of the finger is occasion-

ally so slight, that it is neglected, and the patient refers all his suffering to the shoulder and chest. I have known two instances where the affection was mistaken for acute rheumatism.

I have been told that vesications often appear on the limb, from the bite of a venomous serpent. The same appear after the wounds received in dissection, and, in those cases I have seen, they were so nearly similar to those which are seen on a putrid body, that we cannot be surprised at the alarm of the student. But sometimes all the swelling subsides, and there is merely desquamation of the cuticle. When suppuration ensues, the matter is foul and fetid, and there is often extensive sloughing.

The wounds received in the dissecting-room resemble those vulgarly called poisoned wounds, (which occur from a variety of causes in hospitals;) but, after being wounded in the examination of a body recently dead, the whole system seems to be under the influence of a specific poison, which acts in a remarkably severe and rapid manner. This is not, however, the opinion commonly received: it is not supposed that the bad symptoms arise from the absorption of a specific poison, but merely from irritation. Now, while we admit that the prick of a clean needle or of a new lancet will, in some constitutions, cause symptoms nearly similar to those described above, we cannot deny the fact that several individuals (and, as we may presume, in different states of health) may be affected by touching the same body.

So far I have found it necessary to enter into the theory of this affection, for upon these views I have acted in practice. It has happily not fallen to my lot to see many cases of this kind; and, of the few I have seen, none have proved fatal.

With regard to the treatment, the most important question seems to be, what is to be done during the first twenty-four or forty-eight hours? for, after this time, the peculiar character of the disease is in a great measure lost. The patient may fall into a low typhoid state, or he may labour under the symptoms of the erysipelas phlegmonoides; so that, after a few days, there may be a question as to whether he is to be stimulated and supported, or to be reduced by bleeding.

Are we to bleed in the first instance?—Is a man who is suffering under a poison to be bled, because he has a pulse at 140, rather hard and full, head-ach, anxiety and difficulty of breathing, and flushing of the face? Under almost any other circumstances, I believe no one would for a moment doubt the propriety of a copious bleeding, when such symptoms are present; but may not the pulse be raised by a morbid irritation,—the anxiety and flushing of the face proceed from terror,—the head-ach from the same cause,—and the difficulty of respiration be owing partly to the same, and to the morbid condition of the principal respiratory muscles? But we seldom have the face flushed; it is generally pale and haggard, with a cold perspiration on the brow; and the tongue has not the white dry surface, nor has the pulse the hard stridulous beat, that marks the inordinate action which requires to be subdued by blood-letting. Proceeding on these views, and on the conclusions I have drawn from the accounts given of the effects of bleeding in the cases that are recorded, I have objected to venesection. I have also objected to local bleeding by leeches; for the swelling and inflammation of the arm is of a character that does not appear to be benefited by such treatment: and although, from the cases recorded, we may conclude that local bleeding has been sometimes of advantage, still its good effects have not been sufficiently marked to induce me to run the risk of reducing in this way the vital energies of my patient.—*Lond. Med. and Phys. Journal, May*, 1825.

2. *Purpura Hæmorrhagica.*—This case is brought forward by Dr. Belcher, as an illustration of the well-known views of the late Dr. Parry, in respect to purpura hæmorrhagica. The patient was a child 3½ years of age, who

was suddenly taken ill on the 21st of November, with lassitude, pains in the loins and joints, nausea. To these symptoms succeeded large and repeated discharges of dark fluid blood from the nose, mouth, and anus—the stools exhibiting no fæcal matter. Next came out dark purple blotches on various parts of the body and limbs; these phenomena continuing unabated till the morning of the 23d, when Dr. B. first saw the patient. He found the tongue with a brown fur, interspersed with purple spots, as was the mucous membrane of the mouth and fauces—the pulse 110, feeble and compressible,—the lips blanched—the surface cold and constricted. In compliance with the desires of the friends, and from observing so many symptoms of debility, wine negus and gentle stimuli were administered. But Dr. B. soon had reason to alter his plan, as all the symptoms became exasperated under it. The pulse had risen to 140, full and hard—the surface became hot and dry—the face flushed, with grinding of the teeth, strabismus, convulsive twitchings of the facial muscles, &c. He now ordered the warm bath, which changed the symptoms considerably. A bolus of calomel and rhubarb was given—a turpentine enema thrown up, and repeated till copious intestinal discharges were produced. 24th. Much better; but the bloody discharges and purple blotches continue. The same medicines to be repeated. The oral and nasal discharges have ceased, and the purple spots are fading. Medicines continued. 26th. Every symptom improving. The bath intermitted—the bolus and injections to be continued. 27th. Stools natural, with very few traces of blood. In two days more the patient was convalescent.

3. *Cæsarian Operation.*—In a late number of Graefes and Walther's Journal, the following curious case is related by Mr. Ruth, of Upper Silesia:—

Charlotte W———, ætat. 36, who had borne six children, became pregnant a seventh time, according to her own account, about three years and nine months previously to the date of report. She enlarged in size, and thought she could distinctly feel the motions of the fœtus. She became affected with unusual pains in the bowels, that at last were insupportable. She still continued to menstruate. Five or six weeks before the expected delivery, she strained herself, while washing clothes at a river, and felt something give way; at the same time a tumour suddenly formed a little below and on the right side of the navel. She became faint, and was carried home, where she remained confined for five weeks, experiencing a dull pain in the lower part of the abdomen. Labour pains came on, but gradually wore off, leaving the patient in a weak state. After this she resumed her domestic avocations, and continued to do so for upwards of two years, without any particular inconvenience. The menses were regular but scanty. In this situation she again became pregnant, and remained pretty well up to the seventh month, from which period the abdomen became very large and unwieldy, with great failure of strength. She was delivered, however, of a healthy child. Soon after the birth of this child, the mother became very ill, being thirsty, weak, afflicted with diarrhœa and hectic fever, which were rapidly hurrying her to the grave. The abdomen remained large, notwithstanding the general emaciation. There was a small painful tumour below the umbilicus. A surgeon laid this open, conceiving it to be an abscess. A quantity of matter and *hair* came forth. On introducing his finger, he felt something hard. It was conjectured to be a fœtus, and it was at this time Mr. Ruth was called in, and found the patient in the situation described. The os uteri was close—the abdomen at the time had the appearance of a person at the full period of pregnancy, and through the opening above-mentioned the fœtus could be distinctly felt. Mr. R. proposed an operation, which was assented to, and performed on the 31st December, 1822.

Operation. An incision was made in the linea alba reaching from above the umbilicus to within a short space of the pubis. The peritoneum was carefully opened, and the abdominal cavity exposed. A fœtus presented itself, and was cautiously removed. The umbilical cord was traced over the uterus to the left side, where it was lost in a softened mass, probably the remains of the placenta. A great quantity of purulent matter was soaked up by a sponge from among the intestines. The uterus appeared larger than natural. The breathing becoming difficult, the wound was sewed up, and the patient put to bed, when an anodyne cordial draught was exhibited. The child was found to be a *female*, 18 or 19 inches in length, and well formed. Many of the external parts were in a state of suppuration—in other respects there was nothing particular in its appearance. The patient remained in a most precarious state for many days; but she gradually recovered, and by the middle of March she was as well as ever.

Case 2. Another case is related in the Medico-chirurgical Gazette of Saltzburg, of which we shall record some particulars in this place. Eliz. H——, 28 years of age, pregnant for the first time. Towards the proper period she was seized with labour pains, and, in addition, severe convulsions, which continued thirteen or fourteen hours. On attempting to deliver, it was found that the pelvis was not more than two inches wide. Any operation was put off till next morning, as it could not be ascertained whether the child was living or not—*a decision which was to make all the difference between embryotomy and the Cæsarean operation!*—Next morning the woman was found much refreshed, and the motions of the child could be distinctly felt, and *therefore* the Cæsarean section was determined on! An incision was made in the course of the linea alba, in the usual manner, and by another incision the uterus was laid open, while in a state of contraction, from a labour pain. The hand of the operator was introduced, and the placenta detached. The membranes ruptured, the child's body was extracted, but the uterus grasped it round the neck, and it was with some difficulty that the head could be extricated. The placenta was then withdrawn, the uterus cleared of coagula, and the wound brought together by sutures and other proper means. The child was alive—"and made continual efforts to breathe for half an hour," but died at the end of that period. The woman recovered.

Remarks. Success is not always a criterion of propriety in surgical operations. We consider the above procedure on the part of the surgeon, as well deserving of condign punishment, whether the woman survived or not. To perform the Cæsarean operation in preference to embryotomy, (where the latter is practicable,) is most unwarrantable, and evinces a lamentable, not to say culpable, want of judgment as to the proper estimate of the value of human life.—*Johnson, July*, 1825.

4. *Medicinal application of Leeches.*—At a sitting of the Academy of Sciences, M. Dumeril reported on a memoir of MM. Pelletier and Huzard, on leeches. The authors proposed to determine, in the first place, the causes which in certain cases rendered the wounds made by leeches very difficult to heal; and, in the second, to ascertain the circumstances in which particular leeches will not attach themselves to the skin to which they are applied. On the first point they are of the opinion of those who attribute the difficulty to the temperament of the patient, or to the nature of the disease, or to the imprudent custom which some persons have of disturbing and tormenting the animal in all sorts of ways, in order to make it loose its hold, when it has been supposed to suck too long. On the second point they have ascertained, that frequently in commerce leeches are sent to the market in every respect resembling in appearance those which are known as medicinal leeches, but which, nevertheless, are entirely different in their internal organization. The false leeches have not the mouth furnished

with cutting jaws, nor can they penetrate the skin of animals; their intestinal canal and stomach are differently formed.—*Ann. de Chimie,* xxviii. 96.

5. *Nitre in Menorrhagia.* At a late sitting of the "*Athenée de Medecine,*" M. Goupil, M. Martinet, M. Deslandes, and others, related many cases where nitrate of potash in large doses, (that is, from a scruple to a drachm or even more, three or four times a day,) arrested menorrhagia after the usual means had been tried in vain. The last-mentioned physician reported his success with this medicine, in similar doses, when employed in cases of hæmoptysis. As nitre may be given with acids in large doses, in pulmonary hæmorrhages, without interrupting other means, as blood-letting, &c. it ought to be borne in mind by the practitioner, upon such occasions.

6. *Iodine in Sulphureous Springs.*—M. Cantu, professor of Chemistry in the University of Turin, has discovered that iodine, in the form of hydriodate, is contained in all sulphureous springs—at least, in all that he has analyzed, and he has examined a considerable number. This will account for the efficacy (in part at least) of these waters in glandular and visceral obstructions, and analogous diseases.

He comes to the following conclusions:—1mo. That iodine is most probably a constituent of all natural sulphureous waters containing the hydrochlorates. 2ndo. That the iodine is found, in these waters, in the state of hydriodate. 3tio. That the sulphuretted hydrogen, by a prolonged action on the hydrochlorates, and by other circumstances favourable to chemical reaction, may possibly give rise to the formation of iodine in these waters. 4to. That iodine may, probably, not be a simple but a compound body, one of whose elements may be chlorine. 5to. That the great efficacy of sulphureous waters in the cure of glandular and visceral obstructions, is owing, in a great measure, to the presence of iodine in the form of hydriodate. 6to. That in this diluted state, and in combination with other substances contained in these waters, the iodine may act more efficaciously and less dangerously, than when in an insulated condition.

7. *Sangrado Practice.*—The warm water system of the celebrated Sangrado has been lately revived in France, even to the letter. It was proposed by M. Cadet de Vaux, and put to the trial by M. Duchassin, a physician at Guise. It is for the cure of gout and rheumatism, and consists in the administration of 48 glasses of very hot water (de l'eau très chaude) taken in the course of 12 hours—that is, a glass every quarter of an hour. M. Duchassin avers, that he has been eye-witness of the cures performed in this way. Four cases are related in illustration, in the Gazette de Santé for May 5, 1825.

8. *Observations on the application of Opium, in solution, to lacerated wounds of tendinous and aponeurotic parts.* By William Belcher, M. D. (*Original communication.*)—I have been induced to make a few observations on the good effects of opium in solution applied to lacerations of tendinous parts, from having witnessed several cases of those injuries, where I think tetanus most probably would have supervened, if it had not been for the timely use of this powerful therapeutic agent, shortly after the receipt of the injury, and continued until the commencement of the suppurative stage. One case, in particular, has lately presented itself to my observation, which has made a considerable impression on my mind as to the utility of this application in preventing the onset of the tetanic spasm. A healthy, robust man, who had been attending a bolting-mill in this neighbourhood, got his left hand into a wheel which was moving with considerable velocity: he luckily extricated himself, having the third phalanx of the index, and the second and third of the middle fingers, literally ground to pieces, with considerable laceration of the palmar aponeurosis and some of the flexor tendons. Amputation of the injured phalanges appearing indispensable, I performed it immediately, and dressed the wounds with dossils dipped in opiate solution (gr. iv. to ℥ss.), prescribed an anodyne diaphoretic draught at bed-time, and a saline

purge in the morning. This patient passed the subsequent night free from spasmodic irritation, so commonly attendant on wounds of this class. The dressings were repeated until inflammatory action developed itself in the wound, when an emollient cataplasm was substituted, the patient continuing to enjoy freedom from pain and spasmodic startings. The anodyne draught was continued every night. The wound suppurated; portions of tendon and aponeurosis sloughed; granulation and cicatrization succeeded, without the slightest tendency to spasmodic affection.

I recollect having seen, when a pupil, two remarkable cases of extensive lacerations of the gastrocnemii muscles and tendo Achillis, occasioned by a loaded cart-wheel rolling over the limb: one of these patients was of the sthenic, the other of the asthenic diathesis. The *latter* was dressed with solution of opium immediately after the receipt of the injury; and the subsequent night was spent without pain, uneasiness, or starting in the wound, the patient having slept comfortably. The opiate dressings and draught were continued; when inflammation set in, the emollient cataplasm was applied; and by persevering in this plan for some days, the patient quickly recovered, without constitutional disturbance. This was a case that any person who had seen it would have dreaded the approach of tetanus. The *former* patient was robust, and of the plethoric temperament so usually the subject of tetanus. His wound was nearly similar in situation and extent to the former. He was treated by a different surgeon, with simple dressings and emollient cataplasms. He suffered much pain and spasmodic startings from the date of the injury; considerable and darting pains shooting up along the course of the absorbents to the inguinal glands, some of which became enlarged. All those symptoms became aggravated; and at the decline of the suppurative stage, symptoms of tetanus developed themselves, which in thirty-six hours proved fatal.

I can also call to my recollection two cases of compound dislocation of the thumb at its metacarpal joint, (an injury frequently followed by tetanus,) where the opiate dressings were applied, accompanied by a splint to keep the parts *in situ*. An anodyne was given at night, and a purge in the morning; quietude enjoined. By a continuance of this plan of treatment, the patients recovered, without any disposition to spasmodic affection.

I witnessed another case of this accident where opium had not a fair trial: tetanus supervened, and destroyed the patient.

Mr. Todd, of Dublin, was in the habit of applying opiate dressings to wounds of this description, at the Richmond Hospital, in that city, and with the very best effects. In one case, where the thumb, index finger, and part of the palm of the right hand, were shattered by the bursting of a blunderbuss, amputation was performed shortly after the receipt of the injury, at the carpal joints of the metacarpal bones of the index and thumb; the wound and neighbouring laceration was dressed with lint dipped in solution of opium; the antimonial anodyne at night, and saline purge in the morning, were exhibited. This plan was persevered in, and the patient recovered without a bad symptom, scarcely requiring a poultice. Mr. T. expressed his conviction to the pupils that tetanus would most probably have supervened in this instance, if it had not been for the effects of opium in warding off nervous irritation.

P. S.—While lately serving in his Majesty's navy, in 1823, I witnessed a remarkable and extensive *laceration* of the flexor tendons at the wrist by an iron hook. In this case, opium was applied with excellent effects. Tetanus did not supervene.—*Med. Repos. June*, 1825.

9. *Fractures of the Patella and Olecranon.*—Mr. Amesbury has published some drawings of an apparatus for bringing into apposition fractures of the above-mentioned parts, in the May number of the Medical Repository, to which we beg to point the attention of the surgical reader. We have seen

the apparatus, and also an improvement which he has effected, since publication, in the straps corresponding to B in plate 1. and to D in plate 2. *Johnson, July*, 1825.

10. *Rupture of Perinæum.*—In No. 8 of the Medical Repository, Mr. Bond has favoured the public with a long paper on this subject, and a case in illustration. It is only of the latter we shall present the particulars.

Case. "Mrs. ——, aged thirty-two, a delicate woman, of irritable habit, was taken in labour of her first child at half-past two on the morning of the 15th of January. At three o'clock the pains were severe, and the os uteri dilating under their influence. The vagina was so extremely small as to oppose even the introduction of the finger; and I found, upon subsequent inquiry, that even conjugal intercourse had been invariably "quite torture," through the whole nine months of her married life. Notwithstanding this, the head began rapidly to descend as soon as the os uteri had become sufficiently open; the pains became very unusually acute and forcing, and the whole labour was completed before five o'clock. In the interval between two pains the scalp was left protruded between the labia, so as to keep the fourchette upon the stretch; and the next pain extruded the head entirely, tearing down the whole perinæum from the fourchette to the anus. Apprehensive of such an accident from the unusual smallness of the parts, I was assiduous in my endeavours to prevent it; but I need not describe my feelings as I felt the perinæum giving way under my hand during the pain, while all my care was ineffectual to arrest the progress of the laceration. The placenta followed the child immediately. On examining the wound, a separation of its lacerated lips was followed by so profuse a hæmorrhage as to excite great alarm, but it was at once checked by the introduction between them of linen soaked in cold water. I have spoken in a former part of this paper of the position in which the patient was left for the first few hours. At the end of this time, satisfied that only sutures could retain the parts *in situ*, I applied three at proper distances, observing not to draw them more tight than was just necessary to maintain the lips of the wound in apposition, yet endeavouring to secure such hold with each, that not only the external edges but the whole of the divided surfaces should be in contact; but in consequence of the looser nature of the integuments close to the anus, the ligature applied in that situation was unavoidably less effectual than either of the other two. On the second day there appeared very severe inflammation and swelling of the parts, producing superficial sloughing of the lower part of the vagina and lips of the vulva. Cold lotions were applied locally, the urine was drawn away twice daily, the bowels were kept open by cooling laxatives, and salines and opiates were administered according to symptoms. The patient was allowed to rest either upon her side or back, moving from one position to the other with great care. I had applied one suture a small distance from the fourchette, with the intention of interposing lint between the lips of the wound in front of it, so that the opening of the vagina might be left somewhat larger than its original size, a second next the anus, and a third between the two. As soon as I considered them of no farther service I removed them. Re-union had taken place along the whole wound, if we except the small portion in front of the ligature nearest the fourchette, and another portion next the anus, in which situation there remained an opening large enough to admit the point of the little finger. It communicated with the vagina, and was, therefore, under existing circumstances, rather a source of gratification than of disappointment, for I was aware that it would fill up in no long time by granulation, and it afforded at present a ready exit for the pus secreted from the interior sloughy surface. After this the patient lay chiefly upon her back; the discharges all passed by this opening, which, however, gradually filled up as their quantity lessened. The vagina was injected with warm water twice daily until the sloughy appearance was no longer visible, and afterwards lint

was introduced so as to prevent adhesion between its sides. In short, the whole was entirely healed, and my attendance ceased in less than three weeks from the day of her delivery."—*Johnson, July*, 1825.

11. Dr. MARTLAND's *Case of Staphyloma cured by tapping.*—J. Snape, aged 38, was seized with severe pain in the head while in his Majesty's service at Gibraltar, in 1812, terminating in quotidian intermittent, of two months duration. In April, 1820, Dr. Martland was consulted, and found a cataract of both eyes. In October he cut up the lens of the right eye, and pushed a small portion through the pupil. The operation was repeated twice, and with complete success. On the 14th of December an oculist extracted the cataract from the left eye, with some difficulty, owing to a partial adhesion of the capsule to the iris, which was unfortunately lacerated, with the escape of some of the vitreous humour. Prolapsus of the iris, with violent inflammation, took place the first day after the operation, and continued upwards of six weeks, leaving the patient quite blind of this eye, though very active measures had been pursued to reduce the inflammation, and the unreduced portion of the iris was destroyed by lunar caustic. On the 30th April, he complained of pain darting through the left temple and forehead, with sense of throbbing, as well as of pain, at the bottom of the orbit of the left eye. The conjunctiva was very vascular, and a large tumour was situated on the ball of the eye, opposite the external canthus, when the eye was directed to the opposite side. The tumour resembled that of the sclerotic coat delineated in Travers's Synopsis, pl. I. fig. 7, but was rather broader at the base, and of a deeper colour. The iris lay very near the cornea, and had become adherent to it where the incision was made. After some preparatory measures, the eye was tapped by means of a small cataract needle, and some of the vitreous humour escaped. The pain was relieved in half an hour; but recurred in the night as bad as ever. The inflammation of the eye became more extensive, and the tumour increased in size. Bleeding, purging, calomel, opium, and antimony were exhibited. On another puncture being made in about three weeks after, viscid fluid escaped with much relief. The inflammation now subsided, and the man resumed his trade of weaving. In a few days the tumour again filled, and an additional tumour appeared, and the head-ache returned. On tapping the tumours much viscid humour was again evacuated, with instant relief. In a week, on a recurrence of all the bad symptoms, paracentesis was repeated with the usual good effects. We cannot follow the author through his diurnal detail of symptoms and operations; but on the 16th of August, we observe that Dr. Martland varied the paracentesis. He made a perpendicular incision through the coats of the eye, fully one-third of an inch in length, and about two lines and a half from the temporal edge of the cornea. A great quantity of vitreous humour soon escaped, causing the eye to sink a good deal in the socket, and become very flabby. In spite of this the tumours soon filled again, and it was necessary to tap them six or seven times afterwards. On the 23d February, 1824, no vestige of the tumours remained, nor has there been any pain or inflammation since; there is a cicatrix where the incision was made.

12. *Fatal Irritative Fever.*—A woman of strong healthy constitution, whilst in the daily habit of washing and dressing a suppurating wound in the neck of one of her children, complained of pain and tenderness in one of the joints of the middle finger, the knuckle of which was observed to be swelled and inflamed. There was also perceived a small scratch or wound in the inside of the finger. The inflammation subsided by suitable applications; but, on the following day, she felt pain about the clavicle of that side, extending to the ear. She had also become feverish. Next day the pain had increased, and, in the evening, she was seized with delirium, which went off in the morning, but returned next night. The following day she

was seen by Dr. Babington, and, in the succeeding day, Mr. Travers joined in consultation. She was now delirious, and the pulse very rapid. Mr. Travers made a deep incision into the joint of the finger, suspecting the irritation of matter under the sheath of the tendon. A very small quantity of matter was evacuated, but the symptoms were not relieved by the operation. She was bled, and took purgative medicines. Twenty-four leeches to the hand and arm, with constant fomentations. Next day she was bled again, and anodyne medicines were given, but without any diminution of the delirium or watchfulness. In this manner she continued for some days, and as she was getting weaker, bark and acids were given. Her restlessness and incessant delirium went on till she died, which event was protracted till the completion of three weeks from the accession of the symptoms. On examining the hand and arm after death, the tendons in the palm of the hand were found in a sloughy state, and a collection of matter had formed under the ligamentum annulare of the wrist; but the whole of the arm appeared free from disease.

It is curious that, in this case, the servant who had fomented and poulticed the patient's hand, was attacked with violent inflammation and swelling of the hand and fingers, afterwards extending to the arm. Several collections of matter were formed and opened. Her health suffered so severely from this attack, as to excite, for some time, considerable apprehensions for her life.

This is not the only example where matter from a living body will act as a poison on the body of another person.—*Anders. Journ. Feb.* 1825.

13. *Citric Acid in Uterine Hæmorrhage.*—"M. Gorat, at the last annual sitting of the Royal Academy of Medicine, read a curious paper on the employment of citric acid in hæmorrhage occurring after delivery.

"This practitioner very properly recommends the surgeon not to leave the patient within an hour after delivery, as it is within that time, ordinarily, that hæmorrhage occurs. When this happens, the following is the mode M. Gorat adopts: he strips a lemon of its skin, and having cut off one end of it, he carries it into the cavity of the uterus, and then expresses the juice on the sides of that cavity. He allows the decorticated lemon to remain there until, by the irritation produced by the juice and this foreign body, the uterus is excited to fresh contractions, which, constringing the tissue of that organ, stops the hæmorrhage, and the lemon is expelled with the coagulum formed about it."—*Anderson, April.*

14. Dr. Meyranse, *on Acupuncturation.*—It appears that the needle made use of at La Pitié is constructed of steel, but rendered ductile by heating it in the flame of a candle, and then suffering it to cool slowly. Care is taken to avoid the trunks of vessels or nerves—nor is it ever attempted to introduce the needle into any of the viscera, as has been ridiculously and falsely reported in this country.* The experiment, indeed, was tried on animals, but the results were not such as to countenance such a hazardous proceeding in the human subject.—*Johnson, July.*

15. *New method of treating Compound Fractures.*†—Every one, says Baron Larrey, knows the advantages which result from *infrequency* of dressing wounds, especially where the first dressings are judiciously applied. Many a time has he seen wounded soldiers carried some hundreds of miles, after battle, without having their wounds dressed—and when arrived at their destination presenting the said wounds nearly cicatrized, or in the fairest way for being so. These facts led our author to employ

* In one case a needle was supposed to have penetrated the lungs, if not the pericardium, but not designedly. There was a considerable degree of motion communicated to the needle corresponding with the cardiac pulsations. The needle was withdrawn, and no ill effects followed. *Ed.*

† M. Le Baron Larrey. Journal Complement. January, 1825.

somewhat similar procedure, not only in simple, but also in compound fractures. This plan consists in leaving on the first dressings throughout the whole course of the cure. The bad effects, he observes, of daily dressing the wounds in compound fractures, are exceedingly great. These dressings disturb the limb, and increase the inflammation of bones, ligaments, and muscles, often causing high traumatic fever or abscesses, in some of the internal viscera, as the liver and lungs. The Baron's indications then are ; *first* to scarify, or more properly speaking to *disembarrass* all such wounds, if contused, of foreign bodies, broken bones, &c. incising those parts that are put too much on the stretch—cleansing out all extravasated blood—securing arteries—washing the wounds, and leaving the parts as clean as possible. The limb should then be laid on a part of the apparatus properly prepared, and the fractured bones nicely adjusted. The edges of the wounds are next to be brought as much together as possible, by compresses with holes in them (au moyen de linges fenetrés,) and spread with ointment, over which lint is to be laid, and then more compresses soaked in any styptic glutinous liquor. These dressings should be so adjusted as to fit with great exactness to every part of the limb's periphery. They supply the place of splints. When the compresses are all on, then the dressings should be finished by an eighteen-tail bandage. These dressings should be allowed to remain on during the whole period of the cure. The Baron asserts that, with proper constitutional treatment, the inflammation will be very trifling, and hardly ever such as to require the slackening of the bandages. If this be the case—if no swelling, tension, and inflammation result from this mode of managing fractures, we have no doubt of its utility. But we can hardly persuade ourselves that so little swelling can follow any mode of dressing, so closely adjusted to the limb as the above, as not to require a change when the inflammation comes on. This, however, is a point which is easily ascertained in practice. Two cases in illustration are related by the Baron; but they need not be detailed here.—*Johnson, July.*

16. Dr. Cumin's *Observations on the Treatment of Ganglion.*—Christian Liddel, admitted November 15th, 1824. November 22d.—The skin over the ganglion was to-day drawn firmly to one side, and a couching needle introduced into the tumour; the sac was freely divided, and the contents pressed into the surrounding cellular tissue. A small portion escaped through the external puncture, and presented exactly the appearance of the white of egg. Compress and bandage, solution of acetate of lead. December 2d.—Fluid is again collecting in the ganglion. December 20th. —The ganglion, which was much smaller than on the former occasion, was to-day emptied as before, by means of the couching needle. After this the fluid was daily pressed out of the sac into the surrounding cellular tissue, until the 24th, when only a very small quantity was found in it; and on that day she was dismissed cured, with directions to repeat the pressure daily for some time. I had an opportunity of seeing this patient at the hospital on the 21st February, 1825, and I could then detect no trace of the ganglion, excepting a slight thickening in the situation which it had occupied.

I have since had several other cases which have served to confirm me in the favourable opinion which I had formed of this mode of operating for ganglion. It is of consequence, after the operation, to apply a compress and bandage, and every morning to empty the tumour completely by pressure, and then re-apply the bandage, until at length all remains of the disease have been removed. It does not seem probable, that the cure in such cases is accomplished by the obliteration of the sac, or the cessation of its power of secreting fluid; but by its gradual contraction, and the permanence of the opening in its side, through which any newly secreted fluid finds its way into the cellular tissue, and is there speedily absorbed.

But this simple operation is not equally well suited to every form of ganglion; indeed there are some in which it ought not to be performed. The favourable cases are those in which the tumour is tense and translucent, and rolls freely under the skin, showing that the cellular tissue is loose and healthy. But should the prominence of the tumour be inconsiderable, and the skin covering it thickened or inflamed, the operation ought to be deferred until the parts are in a more favourable condition; for, under the circumstances now mentioned, the sac cannot be freely divided, the cellular tissue will not readily receive the glairy contents, and the efforts used to force them out will in all probability cause inflammation and suppuration of the sac. None of the patients on whom I have operated ever complained of pain from the introduction and movements of the needle; one gentleman indeed even spoke of the latter as causing rather a pleasing sensation.

It has occurred to me, that a similar mode of operating might be applied to hydrocele; and that a cure of that disease might be accomplished by opening a communication, by means of the cataract needle, between the cavity of the tunica vaginalis and the cellular tissue of the scrotum. No suitable opportunity has presented itself of putting this idea to the test of experiment; but the trial is one which, in the hands of a cautious surgeon, would in all probability effect at least a temporary cure, and which could not be productive of any injurious or unpleasant consequences.—*Edinburgh Med. and Surg. Journal, July*, 1825.

MEDICAL INTELLIGENCE.

We are indebted to Dr. Baxter, of New York, for the following Meteorological Observations.

Range of Barometer in New York, for the quarter ending 30th June, 1825.

	April.	May.	June.
Max.	30.2—30.3	30.4—30.4	30.1—30.1
Min.	29.6—29.5	29.5½–29.5	29.5—29.4
Diff.	0.6— 0.8	0.8½– 0.9	0.6— 0.7
Med.	29.9—29.9	29.9¾–29.9½	29.8—29.7
15 days clear.		20 days clear.	18 days clear.
5 cloudy.		2 cloudy.	3 cloudy.
1 with snow	30	9 with rain.	9 with rain.
5 rain.		—	—
4 mixed.		31	30

Thermometer.

	April.			*May.*			*June.*		
	morn.	noon,	night.	morn.	noon,	night.	morn.	noon,	night.
Max.	56	84	62	72	92	70	84	97	84
Min.	32	35	38	44	53	46	60	60	57
Diff.	24	49	24	28	39	24	24	37	27
Med.	44	59½	50	58	19½	58	72	78½	70

Much misapprehension seems to exist with respect to locating the thermometer, in order to obtain the best observations, by which the accounts we receive of the state of the temperature differ very much; some place it in soda, subject to the influence of melting ice; others place it in a close room, the air of which may not be changed for several days; with others it is subject to strong reflected heat, and others exclude radiant caloric altogether. Thus the grand object is lost sight of altogether, which appears to me to be to ascertain the temperature the body is exposed to in our usual occupations and intercourse. For this purpose we do not wish to surround it with ice, or subject the air to be cooled previous to its coming

to the thermometer; in a close room we are liable to take the temperature of the morning air at noon, or that of yesterday to-day. Our bodies are subjected to reflected heat every step that we move out of our houses, and it is reflected heat which makes the difference between town and country, in-doors and out, and of the upper and lower strata of the atmosphere; in walking our streets we are exposed to the radiant caloric from houses and pavements, by which the thermometer is raised, unless a breeze of cool air keep it down, while at other times a southerly wind prevailing long, as has been the case frequently this summer, will raise the thermometer higher than the usual concentrated reflection.

Dr. R. S. Dorsey, of Perryville, (Missouri,) has favoured us with an account of a case of dropsy of the abdomen, which was tapped sixty-nine times, discharging at each time about two gallons of water: the patient was tapped for the first time on the 10th of March, 1821. The ascites proceeded from disease of the liver.

A mistake was made, in stating that the case of wound of the stomach produced by the penetration of a ball, was communicated by Dr. Lovell, for the January Number of this year. It should have been mentioned as reported by Dr. William Beaumont; and also, that it occurred at the post of Mackinaw. We should be obliged to Dr. Beaumont for any further particulars of this case; which was considered as highly interesting, instructive, and well drawn up.

We have often had occasion to notice the virtues of the newly discovered articles of the Materia Medica. Messrs. Ellis and Griffith, at the corner of Eighth and Chestnut streets, Philadelphia, we are happy to inform the Subscribers to this Journal, have received the Hydriodate of Potass, the Iodine, the Emetine of Dr. Clutterbuck, the Morphine and Strychnine. These articles have been little tried in this country, and as they have been highly recommended abroad, we should be happy to hear of some observations upon them, from the Subscribers. The high character of Messrs. Ellis and Griffith is a sufficient guarantee for their purity. The efficacy of the Strychnine in palsy in particular, a subject of high eulogium abroad, would be worthy of trial.

Dr. Emerson, of this city, we understand, is about soon to put to press an edition of Carmichael on Venereal Diseases, with Notes by himself. The attention which this gentleman has given to this subject, will render this work a valuable assistant to those who wish to study this branch of surgery; the latest and best information on the subject may be expected from this edition, which in itself is extremely valuable, as containing the most matured experience of Mr. Carmichael, as well as that of the American editor, on whose judgment and experience entire reliance may be placed.

ERRATA.

Page	684,	line 3,	*for* Halley,	*read* Haller.
	685,	2,	are,	is.
	687,	20,	Mass.	N. H.
	698,	1,	tendency,	disposition.
	701,	39,	bronchia,	bronchiæ.
	707,	22,	those,	these.
	717,	4,	tropical,	topical.
	——	13,	mere,	more.
	722,	30,	ulcer of,	ulcer of the.
	725,	38,	pneumonica,	pneumonia.
	730,	28,	demonstration,	demonstrations.
	813,	35,	J. M'Caulay,	P. M'Caulay.

INDEX.

A.

Page

Abortion procured by Violence, - - - - - 461
Abstract of the principal Facts, &c. concerning Fever, 482, 738
Account of an Operation on the Face, - - - - - 275
Acclimation, - - - - 496
Accidental Poisoning, - 633
Acidity, - - - - - 114
Acne, - - - - - 95
Action of Iodine, remarkable, 624
Acupuncturation, Galvanic Phenomena with, - - - 625
Ophthalmia, cured by, 626
Effects of, 632, 837
Affinities between the Intermitting and Remitting Forms of Summer Diseases, - - 501
Affections of the Spinal Canal, &c. - - - - 325
Ligaments of the Spine, - 326
Arterial and Absorbent Systems, *ib.*
Urinary Organs, &c. - - 327
Alcoloids, - - - 427
Amesbury's Apparatus, - 215
Amputation, letter on, - 184
Angular Projection of the Spine, 598
Animal Putrefaction, - - 492
Ano, Fistula in - - - 309
Anomalous Cases - - 731
Antiphlogistic Plan of Treatment, - - - - - 190
Antimony, Tartrite of, in Colic, 216
Anus, Morbid Contraction of, 285
Appearances on Dissection in Cholera, - - - 770
Application of Leeches, - 832
Aphthæ, - - - 94, 134
Aphthæ, Chronic, - - 766
Arsenic, Detection of, - 418
Ascites, Compression in, - 625
Attendant Affections on Excurvation of the Spine, - 323
Autumnal Fevers of Delaware County, - - - - 217

B.

Bad Effects of Ergot, - 420
Bampfield on the Spine, 320, 579
Barkhausen's Correspondence, 180
Bark, Substitutes for, - 538
Bardsley on Mental Derangement, - - - - - 29
Barton's, Dr. W. P. C., Correspondence, - - - 640
Barometer, Range of, - 839
Baxter's Case of Abortion, 461
Anomalous Cases, 731
Beaumont's Case of Wounded Stomach, - - - 840
Berkshire Medical Institution, 437
Bill regulating the Practice of Medicine, - - - 213
Bilious Diarrhœa, - - 766
Bladder, Hemorrhage into the, 628
on Stone in the, 216, 434, 452
631, 649, 771
Bleeding in Intermitting and Remitting Fevers, - - 516
Blood, Essay on the - - 414
Brown's Cases of Spontaneous Evolution, - - - - 50
Bronchocele, - - - - 792
Butter on Irritative Fever, - 795

C.

Calvert on the Rectum and Anus, - - - 142, 285
Cancer cured, - - - 190
Caoutchouc, Preparation of, 425
Carbonate of Iron in Chorea, 55
Cartwright on Syphilis, - 441
Castration, Effect of, - 199
Castor Oil, a Substitute for, 421

	Page
Case of Stricture of the Œsophagus,	1
Luxation of the Shoulder Joint,	9
Wounded Stomach,	14
Extirpation of the Ovaria,	19
Small-Pox after Vaccination,	46
Spontaneous Evolution,	50
Puerperal Fever,	52
Chorea, 55,	737
Twins Interlocked,	232
Hernia, 226,	463
Tumour on the Cranium,	260
Strangulated Hernia,	278
Chronic Cephalalgia,	421
Extraction of an Infant from the Abdomen,	459
Abortion,	461
Extra Uterine Fœtation,	464
Rotatio, or Chorea,	467
Tetanus controlled by Caustic Issue,	548
Empyema,	551
Pervious Urachus after Birth,	624
Accidental Poisoning,	633
Anomalous,	731
Lithotomy,	771
Tetanus,	773
Purpura Hæmorrhagica,	830
Rupture of the Perinæum,	835
Irritative Fever,	836
Staphyloma cured,	*ib.*
Ganglion,	838
Causes of Stricture of the Rectum,	168
Dysentery,	739
Bilious Diarrhœa,	766
Caustic Issue to the Spine in Tetanus,	548
Cephalalgia, Chronic,	421
Cervix Uteri, Extirpation of,	199
Character and Symptoms of Summer Fevers,	504
Change of do. in do.	506
Character of Irregular Intermittents,	507
Chorea, 55, 467,	737
Cholera, 133,	769
Chronic Dysentery,	762
Circocele, new Operation for,	271
Circumstances which modify the Action of Bark,	532
which render the Administration of other Medicines necessary with Bark,	534
which impede the success of Bark,	537
Citric Acid in Uterine Hæmorrhage,	837
Civiale's Operation for Stone,	439
Cod-Liver Oil in Rheumatism and Gout,	624
Cæsarean Operation, 196,	831
successful,	415
Cold in Fevers,	525
Columbia College, D. C.	645
Colic,	114
Common Salt as a Corrective,	420
Compression in Ascites,	625
Compound Fractures,	887
Constipation,	113
Contributions to the Recorder,	180
Congenital Lymphatic Tumours,	260
Condensed Abstract of Fever, 482,	738
Consequence of Intermittents,	512
Convalescence after Fever,	542
Concussions of the Spinal Marrow,	604
Consequences of Dysentery,	740
Contagion,	741
Convalescence after Dysentery,	758
Corus,	64
Corrosive Sublimate, Poisoning by,	185
Cornea, Ulcers of the,	630
Croup, Symptoms and Cure of,	480
Cubebs in Inflammation,	239
Cultivation of Opium,	440
Curvatures of the Spine,	328
Cure of Fevers,	514

D.

Dandriff,	65
Death during an Operation,	626
Dearborn's Letter,	639
Description of an Instrument,	267
Detection of Arsenic,	418
Diarrhœa,	116
Diet, Cure of Fevers by,	515
Diseases of the Spine,	321
Diseases, simulated,	416
Dissertation on Variola,	623

	Page
Dissection Wounds, - -	827
Doucet's Case of Chorea, -	737
Dropsy of the Abdomen, -	840
Drunkenness, Prevention of,	413
Dunglison on Diseases of Children, - - - - -	100
Dupuytren's Case of large Tumour, - - - - -	627
Dutton on Autumnal Fevers,	217

E.

Ecthyma and Rupia, - -	85
Effect of Castration, - -	199
Efficacy of Nitrate of Potass in Hæmorrhage, - - -	421
Effects of Temperature of 32° of Fahrenheit, to 100°, -	485
Extreme Dryness,	486
Excess of Moisture,	488
Season on Summer Diseases, -	497
Constitution, &c.	500
Treatment,	*ib.*
Nitrate of Silver,	624
Vaccination on the general Mortality,	634
Elephantiasis, Observations on,	37
Emetics in Fevers, - -	520
Emerson's Notes, - -	840
Epilepsy, Mugwort in, -	420
Ergot, bad Effects of, -	*ib.*
Experiments on, -	623
Erythema, Erysipelas, -	93
Escape of Intestines into the Thorax, - - - -	236
Essay on Autumnal Fevers,	217
Syphilis, - -	441
Phthisis Pulmonalis,	681
Examination of Civiale's Instrument, - - - - - -	650
Excrescences about the Anus,	315
Experiments on the Treatment of Itch, - - - - -	423
Ergot, -	623
Extirpation of the Ovaria, -	19
Cervix Uteri,	199
External Hydrocephalus cured,	200
Extraction of an Infant from the Abdomen, - - -	459
Extra-Uterine Fœtation, -	464
Extinction of Fire, - -	632

F.

Faculty of Maryland, -	439
Fever, a condensed Abstract of,	482, 738
Fever, Irritative, - -	836
Fire, Extinction of, - -	632
Fistula in Ano, - -	309
Flatulency, - - -	114
Fœtor, Salt as a corrective of,	420
Forms of Stricture, - -	162
Formey on the Pulse, -	623
Forbes on the Chest, -	779
Fosbroke on Cubebs, -	239
Frank's cases of Cephalalgia,	421
Fractures of the Patella, -	834
Compound, -	837

G.

Galvanic Phenomena, -	625
Ganglion, treatment of -	838
General Treatment of Hæmorrhoids, - - - - -	152
German Medical Literature,	183
Gooch on Uterine Hæmorrhage,	424
Gout, cod-liver oil in -	624
Graduates of Yale College,	642
Bowdoin College,	641
Berkshire Medical Institution,	642
University of New York, -	643
University of Pennsylvania, -	*ib.*
University of Maryland, -	645
University of Transylvania, -	647
Medical College of Charleston, S.C.	*ib.*
Great Tumour on the Neck,	627
Gun-shot Wound, - -	548

H.

Hamersley on Phthisis, -	681
Harrisburg Medical Society,	440
Hardy's Cases of Small-pox,	46
Hepatic Dysentery, - -	765
Herpes, - - - - -	79
Hernia, Treatment of,	426, 629
Hayes' case of, -	463
Hewson on Venereal Ophthalmia, - - - - -	356
History of Excurvation of the Spine, - -	322
Incurvation do.	579
Angular Projection,	598
Hæmorrhoidal Tumours, -	146
Varices, -	149
Hæmorrhoids, Treatment of,	152
Operations for,	159

Page
Hæmorrhage, Nit. Potas. in, 421
into the Bladder, 628
Hydrocephalus, cured by puncture, - - - - - 200
Hydro-cyanic Acid in Tetanus, 420
Hydrophobia, - - 423, 625
Hydrorachitis, - - 606
Hydrocele, - - - 791
Hypertrophia of the Brain, 624

I.

Ichthyosis, - - - 64
Incurvation of the Spine, 579
Inflammation of the Stomach, 137
of Hæmorrhoidal Tumours, 149
of Mucous Membranes, - 239
of the Mamma, 792
Influence of Vaccination, 421
Inflammatory Dysentery, 741
Instrument for Local Pressure, 267
Insanity, Prevalence of - 628
Intestinal Worms, - - 102
Intestines, Inflammation of, 137
Intussusception, - 139, 302
Iodine, Effects on the Mammæ, 624
in Springs, - - 833
Iritis, - - - - - 629
Iron, Carbonate of, in Chorea, 55
Irregular Symptoms in Intermittent and Remittent Fevers, 539
Irritative Fever, Butter on, 795
Case of, - 836
Irwin's case of Twins, - 232
Italian Remedies, - - 632
Itch, Various forms of, - 71
Treatment of the, - 423

J.

Jameson on Stricture of the Œsophagus, - 1
Case of Luxation, 9
New Operation for Circocele, - - 271
Case of Strangulated Hernia, - - 278
Examination of Civiale's Operation for Stone, with a new mode of performing the lateral Operation, - 650
Case of Lithotomy, 771
Journal, Philadelphia, 379, 395, 612, 818
Page
Journal, New York, 367, 373, 810
New England, 383, 800, 804

K.

Kinnis on Elephantiasis, 37

L.

Lacerated Wounds, opium in, 833
Leeches, Medicinal Application of, - - - - 832
Leprosy (Lepra Vulgaris) 65
(Pelagra) - - 69
Letter on Amputation, - 184
from General Dearborn, 639
Lichen, - - - - - 70
Lithotomy, Remarks on the Operation of, 434
Recto-vesical, 631
Jameson's mode of performing the Lateral Operation, 650
Lizars on Extirpation of the Ovaria, - - - - 19
Local Treatment of Hæmorrhoids, - - - - - 154
Local Pressure in Ovarian Dropsy, - - - - - 267
Lorinser on Ergot, - - 623
Lovell's Case of Wounded Stomach, - - - - - 14
Lungs of drowned animals, water in, - - - - - 624
Luxation of Shoulder-joint, 9
Lyceum of Natural History, 437
Lymphatic Tumours on the Cranium, - - - - - 260

M.

Magrigor on Elephantiasis, 37
Malignant Intermittents, - 541
Mammæ, effects of Iodine on the, 624
Martinet on the Nerves, - 426
Medical Literature, - 183
Intelligence, 437, 839
Society of Philadelphia, 437
Harrisburg, 215, 440
Medicinal application of Leeches, - - - - - 832
Mental Derangement, - 29
Menorrhagia, Nitre in, - 833
Mercurial Disease, - - 74
Mercury in Fevers, - - 525
Meteorological Observations, 202, 213, 833

	Page
Mode of Examining the Rectum,	168
Morbid contraction of the Anus,	285
Mortality, Effect of Vaccination on the general,	634
Mucous Membranes, Cubebs in inflammation of,	239
Mugwort in Epilepsy,	420

N.

Nature of the Discharge from Hæmorrhoids,	144
Prolapsus Ani,	299
Naudain's Account of an Operation,	275
Nervous Pregnancy,	413
Nerves, Remarks on the,	426
Nettle Rash or Urticaria,	91
New York Journal, 367, 373,	810
New England Journal, 383, 800,	804
New Mode of Operating for Stone,	650
New Medicines,	840
Nitrate of Potass in Hæmorrhage,	421
Nitrate of Silver, effects of,	624
Nitre in Menorrhagia,	833

O.

Observations on Mental Derangement,	29
Elephantiasis,	37
the Range of Thermometer, 439, 648,	839
Ganglion,	838
Obstetric Practice, Stewart's,	216
Ocular Diseases, Report of,	193
Œsophagus, Stricture of,	1
Olecranon, Fractures of,	834
Operations for Hæmorrhoids,	159
Civiale's, for Stone, 216,	439
for Circocele,	271
of Lithotomy,	434
Opium, Cultivation of,	440
in lacerated Wounds of Tendons, &c.	833
Ophthalmia, Hewson on Venereal,	356
cured by Acupuncturation,	626
Origin of Hæmorrhoids,	143
of Variola,	623
Ovaria, Extirpation of the,	19
Ovarian Dropsy, Pressure in,	267

P.

Patella, Fractures of the,	834
Peculiar Spasms in Children,	634
Pemphygus and Pompholyx,	86
Periodical Return of the Discharge from Hæmorrhoids,	145
Pervious Urachus after birth,	624
Perinæum, Rupture of,	835
Petechiæ, or Purpura,	88
Phenomena accompanying Acupuncturation,	625
Philadelphia Journal, 379, 395,	612
	818
Medical Society,	437
Phlegmon,	94
Phthisis Pulmonalis, Essay on,	681
Pimples on the Face, (Acne,)	95
Plumbe on the Skin,	58
Poisoning with Corrosive Sublimate,	185
Case of accidental,	633
Preservation of Subjects,	200
Predisposition to Curvature of the Spine,	328
Prevention of Excurvation,	332
Drunkenness,	413
Preparation of Caoutchouc,	425
Premiums,	437
Premium Essay,	681
Prevention of a Paroxysm of Fever,	529
Intermittents and Remittents,	544
Prevalence of Insanity,	628
Prevention of Dysentery,	739
Prolapsus Ani,	299
Prognosis in Common Intermittents,	510
in Malignant do.	512
Properties of the Vegetable Principles,	427
Prussic Acid in Tænia,	420
in Tetanus,	773
Puerperal Fever, Case of,	52
Pulse, Formey on the,	623
Puncture in Hydrocephalus,	200
Purgatives in Fevers,	520
Purpura Hæmorrhagica,	830
Putrefaction,	492

R.

Range of the Thermometer, 439, 648,	839

	Page
Rectum, Symptoms of Stric-tured,	164
Mode of examining the,	168
Ulcers of the,	309
Recto-Vesical Lithotomy,	631
Reese's Case of Tetanus,	548
Rejection of Graduates,	215
Relapses of Fever,	540
Dysentery,	758
Remarks on the Nerves,	426
on the Operation of Lithotomy,	434
Remarkable Case of Empyema,	551
Effects of Iodine,	624
Remedies, Italian,	632
Remote and Exciting Causes of Phthisis Pulmonalis,	681
Remittent Form of Dysentery,	746
Report of Ocular Diseases,	193
Resolutions of the Medical Faculty of Maryland,	439
Review of Plumbe on the Skin,	58
Dunglison on the Diseases of Children,	100
Calvert on the Rectum and Anus, 142,	285
Bampfield on Diseases of the Spine, 320,	579
Hewson on Venereal Ophthalmia,	356
the New-York Medical and Physical Journal, 367, 373,	810
Philadelphia Journal of the Medical and Physical Sciences, 379, 395, 612,	818
New-England Journal of Medicine and Surgery, 383, 800,	804
Clinique Medicale, ou Choix d'Observations à la Clinique, de M. Lerminier, M. D.	554
Forbes on the Chest,	779
Holbrook on Hydrocele, Bronchocele, and Inflammation of the Mamma,	791
Butter on Irritative Fever,	795
Rheumatism, Cod-Liver Oil in,	624
Roseola,	92
Rotatio or Chorea cured,	467
Running Tetter, (Impetigo)	76
Rupture of the Perinæum,	835

S.

Salt to correct Fœtor,	420
Sangrado Practice,	833
Scaly Tetter, (Psoriasis)	67
Scabies, Common Itch,	74
Scudamore on the Blood,	414
Searle on Local Pressure,	267
Simulated Diseases,	416
Small-Pox after Vaccination,	46
Solution of Opium in Wounds,	833
Spasms, Peculiar,	634
Spine, Nosology of Diseases of the,	321
Excurvation of the,	322
Spina Bifida,	606
Spontaneous Evolution of the Fœtus,	50
Staphyloma cured by tapping,	886
Stewart's Obstetric Practice,	216
Stethoscope and Percussion,	779
Stomach, Wound of the,	14
Inflammation of,	137
Stone, Civiale's Operation for, 216,	439
Stricture of the Œsophagus,	1
Rectum,	161
Strangulated Hernia,	278
Stretching of the Spinal Marrow,	604
Subjects, Preservation of,	200
Substitute for Castor Oil,	421
Bark in Fevers,	538
Sudden Death,	626
Sulphureous Springs, Iodine in,	833
Super-Fœtation, Case of,	464
Sycosis,	97
Symptoms of Stricture of the Rectum,	164
and cure of Croup,	480
and Character of Remittents,	513
of lateral Curvature of the Spine,	582
Synoptical Table,	427
Syphilis, Essay on,	441

T.

Tapping the Eye,	836
Tartrite of Antimony in Colic,	216

	Page
Tetter, Scaly,	67
Running, (Impetigo)	76
Tetanus controlled by Caustic Issue,	548
Prussic Acid in,	773
Thermometer, Range of, 439, 648,	839
Thorax, Intestines in the,	236
Thomson on Lymphatic Tumours,	260
Tinea,	80
Tænia, Hydro-Cyanic Acid in,	420
Transylvania University,	440
Treatment of Lepra and Psoriasis,	67
Hæmorrhoids,	152
Strictures of the Rectum,	171
Excurvation of the Spine,	333
Itch,	423
Hernia, 426,	629
Malignant Intermittents,	541
Incurvation of the Spine,	580
Lateral Curvature,	587
Spina Bifida,	606
Angular Projection,	600
Trezevant's Case of Super-Fœtation,	464
Tetanus,	773
Treatise on the Pulse,	623
Trial for Poisoning,	185
Tumours on the Cranium,	260
of the Rectum,	318
Tumour removed from the Face,	275
Neck,	627
Twins interlocked,	232
Typhous Dysentery,	759

U.

	Page
Ulcers of the Rectum,	309
Cornea,	628
University of Transylvania,	440
Pennsylvania,	638
Urachus pervious after Birth,	624
Urinary Organs, Affection of the, in Excurvation of the Spine,	327
Urticaria,	91
Uterine Hæmorrhage, on counteracting,	424
Citric Acid in,	837

V.

Vaccination, Influence of,	421
Effect of, on the general Mortality,	634
Van dem Busch, Letter from Dr.,	183
Vandeburg's Case of Chorea,	55
Variola, Origin of,	623
Variations of Thermometer, 439, 648,	839
Vegetable Principles, Properties of the,	427
Vegeto-Animal Putrefaction,	493
Venereal Ophthalmia, Hewson on,	356
Vomiting,	133

W.

Warts,	60
Water in the Lungs of Drowned Animals,	624
Webster's Operation on the Face,	275
Worms, Intestinal,	102
Wounded Stomach, Case of,	14
Wounds received in Dissection,	827

END OF VOL. VIII.

AMERICAN PERI

TITLE THE AMER
MEDICAL R

VOLUME III-VIII NUMBER(S)

PLACE OF PUBLICATION PHI

PHOTOGRAPHED FROM ORIGINAL IN MED. L

CONDITION ORIGINAL GO

ORDER NUMBER 120

END

IODICAL SERIES

RICAN
RECORDER

DATE 1820-25

ILADELPHIA
LIB. U. of MICH.
OOD

22424

RSITY MICROFILMS

R MICHIGAN